The Builder.

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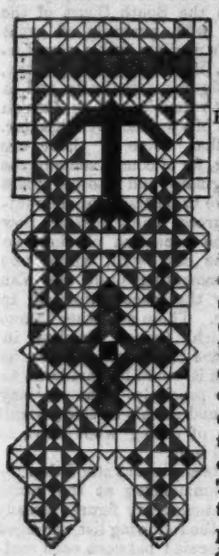


The Strike in Wales.

THE OUTLOOK of the mining industry of Wales is, we are deeply grieved to see, gloomy. While we desire to hope to the last moment, it is yet impossible to doubt that the risk of an industrial calamity of magnitude, only to be compared with that of the cotton famine caused by the American Civil War, menaces that important district of the United Kingdom. The question is no less than that of the employment of some hundred and twenty thousand bread-winners. To rate the activity of so many, men and boys, as the source of a weekly return to the labourer of 120,000*l.* per week, or six-and-a-quarter millions of pounds sterling per annum, is probably very far to understate the case. What addition to the permanent wealth of the country is made by that expenditure in labour is another question, and one of far larger amount. But for the moment we prefer to look the matter in the face from the point of view most interesting to the workman: with him we have, not only the bond of philanthropic sympathy, but that of the brotherhood of craftsmanship. We know, from long and wide experience, much of the noble qualities of the English workman; his skill, his patient industry, his rare and prodigally exerted strength; the thorough and reliable character of the work which, when he is in his normal condition, he takes a pride in turning out. We know, too, something of his failings,—failings which he will himself be the last either to deny or to justify; and we know, and this is the most painful part of the whole story, how some of the best principles of his character, his sturdy independence, his self-reliance, his self-respect, even the increased knowledge of the relations of labour and of capital which is slowly spreading amongst us, are too often adroitly turned to his disadvantage. No appeal is so dangerous as that which is made to a man who is told part of the truth, on the pretence that this part is the whole.

There can be no doubt that this country is now passing into, or it may be through, one of those constantly recurring periods of restriction, which have hitherto always followed periods of great extension in industrial activity. Not in Wales alone, but wherever coal is won, or ironstone is quarried, or iron is made, in Great Britain, the order-books of the manufacturers show that the scale has turned. The very principle of the regulation of commercial and manufacturing industry by unrestrained competition, is a cause of this oscillation of the pendulum from the full to the empty side of the pocket. It is possible that some such ebb and flow is inseparable from human affairs; but it is certain that a great deal that some persons declare to be advantageous to mankind has a great effect in exaggerating the differences. If we were asked to trace these disturbing causes to the very egg, we should say that the egg is the introduction of the principle of working in competition rather than in co-operation. So long as we consider that the order of things most suited to Englishmen is an independence which may at any time take the form of hostility; whether we see it in the form of manufacturer tendering against manufacturer, instead of working together in a vend or syndicate; or in the form of the owner of labour holding himself as distinctly interested from the owner of capital; or in the form of an attempt to limit the labour of any man, by any rule but his own capacity, conscience, and power of working,—so long as these things not only exist, but exist without sense of wrong, shall we find the industry of our country to be disturbed by periodic and violent fluctuation.

The extraordinary rapidity and magnitude of the last movement in the direction of increased wages may be estimated, with great accuracy, from some statistics lately communicated to the daily press by the manager of a joint-stock colliery. Mr. J. T. Johnson, C.E., states his own experience that, in 1871, the price per ton for cutting coal was 1*s.* 9*d.* It is plain that this is only one of the numerous items which go to make up the total price for which coal can be delivered to the consumer. Still it is the best item to select as a sample of the whole. The work of the getter, or coal-cutter, is, in point of fact, the limit of production. Although it is probable that improved machinery will, sooner or later, make a material difference in this respect, we must regard the matter as it is, not as it may become. As it is, then, the coal getter has been, for a considerable time, the master of the situation. The cheerful industry of all other persons employed in the winning of coal must depend on his good pleasure. And, although he will only stipulate for his own price, and may leave other labourers to shift for themselves, it is the case, without doubt, that a rise or fall in the price of coal-cutting will represent pretty accurately a corresponding rise or fall in every detail of this important industry.

In the years 1872-73, the price of coal-cutting, in the colliery superintended by Mr. Johnson, rose, by successive steps, from 1*s.* 9*d.* to 3*s.* 6*d.* per ton; that is to say, an increase of 100 per cent. The price of coal-cutting in those two years was exactly doubled. It is certain that no increase in difficulty of operation, and that no increase in the cost of living, can have occurred, within the period in question, in any way tantamount to so enormous an increase of price. It was, no doubt, a result of the state of the labour-market. The principles of political economy came into play. Not only so, but they acted in that rough, violent, and unchecked manner which we confess that we believe to be a social evil, and a result of political ignorance. But it is the mode of action in which most writers on the subject appear to think that it is the highest wisdom, not only to acquiesce, but to acquiesce with delighted wonder, at the happily self-regulating power of the principle of supply and demand.

Be that, however, as it may, we are in face of this important fact. The colliers, so far as their general body is represented by the coal-cutters of this particular colliery, have taken advantage of their position, as controlling the supply of one of the great necessaries of life, to exact, within two years, a double price for their labour, compared with that which they received during the year 1871. In so doing they did what the theoretic writers on political economy teach them they had a full right to do. We are not about to discuss the question as a point of conscience or of morals, whether a man has the right to extort the utmost farthing which it is in his power to grasp. What we want to know is—the colliers having this power, and being told that they have the right to exercise it—are they wise in so doing, and in using that power to the full?

If we had put this question during a rising labour market, we might well have expected to receive a somewhat contemptuous answer. We should very likely have been told that we were arguing the case of the consumers, being, probably, consumers ourselves; that we were using the usual plea of the weaker and worsted party in a contest,—an appeal to the merciful consideration of the victors—on some metaphysical grounds of a moral or religious nature; that our turn was over; that labour was king, and meant to reign; and that the whole outcome of the most advanced philosophy of the day encouraged King Labour to take his ease; and that having (like Leo X.) obtained so ample a fulfilment of his most sanguine hopes, nothing remained for him but to consider how he could enjoy himself the most fully. Such, in fact, if not in exact words, would have been the reply we should have received.

But what has been the grim logic of fact? What has been the comment of that change which is the staple of contemporary history? The enormous increase in the price of coal which is the necessary, or at least the natural, consequence of a rise in the price of cutting it, of so apparently insignificant a value as 1*s.* 9*d.* per ton, has acted as a damper upon the activity of all industries fed by coal, or dependent on steam. The stone, once set rolling, has accumulated, like an avalanche, at every bound. The result, indeed, is not immediate. Were it possible for this to be the case, for the result of any action, especially of any combined action, to be at once apparent, a great safeguard would be present, which we actually lack. Prices always rise when there is some increase of demand for that to which they apply. It is here that there is room for a fallacy which we conceive underlies very much of what is said on the subject of supply and demand. We are dealing with two disturbing causes, which are perfectly distinct from each other in their origin, and in their field of operation, although at certain points they pull together. The two elements, in the present case, are the need for coal, and the available amount of labour at the command of the collier. So it was, that in the state of prices ruled by the wages of the colliers in 1871, a brisk industry was everywhere becoming brisker; more coal was demanded; and so widespread had been the preparations for increased activity, that a moderate and reasonable rise in the price of coal would hardly have checked them. Even an immoderate rise in that price could not check them at once. Contracts were made; arrangements were in progress; new capital was invested; a course of activity had commenced which could not be immediately arrested. We all know how it sometimes happens that something must be acquired, at whatever cost. Thus, if a ton of coal was only to be obtained, on a sudden, at the price at which two tons could be reasonably supplied, no one was at liberty to cease to burn for that reason. The drag, it is true, would be immediately put on. But the impetus of the machinery was so great that much time would necessarily elapse before the full effect, or even any serious effect, of the drag was felt.

We can measure, by the same scale as that which we applied to the process of inflation, the manner in which the restrictive action has hitherto come into operation. In two years we saw prices doubled. For six months there was a calm. It was dead high water. Then the tide began to turn. In June, 1874, the ebb was perceptible. It was indicated by a reduction of 3½*d.* per ton in the price of coal-cutting. This was only, it is true, a reduction of about 9 per cent. on the prices of January, 1874; but it was a reduction of 18 per cent. if calculated with reference to the prices of 1871. In September the process was repeated. A second reduction of 3½*d.* per ton was made in the price

of cutting. After this reduction, the price still stood at 2s. 10¾d., or 65 per cent. in advance of the price of 1871. But no signs of attaining the low-water level have followed this reduction. It might have been possible, let us admit for the sake of argument, that the activity of 1871 would not have been materially checked by a rise of 65 per cent., although it was so checked by a rise of 100 per cent. That is not the point we want to make clear. What we mean, and what the logic of events shows to be the case, is that the ill effects of an undue inflation of prices are not to be obviated by a return to what might have been the normal rate of prices at a fixed period. The probability is, that the ebb will be as exaggerated and undue as is the flow. In the most sensitive, because the most readily affected, of all the gauges of commercial activity, the Bank rate of discount, this may be constantly remarked. So long as the rate of discount merely follows the market, its variation is gradual, and no one is inconvenienced. But when the state of things is reversed, and the efflux of gold is such as to menace (owing to the fact that a bank-note is not really a bullion deposit note) the position of the Bank, the screw is put on, as it is called. That is to say, a change is made in the rate of discount, with the express purpose of giving a turn to the market. We have seen 10 or 12 per cent. demanded by the Bank for this object, and with the anticipated result of an almost immediate change in the direction of the efflux of bullion.

In the Bank returns these things are now becoming patent to any intelligent observer. From the rapidity with which effects follow causes, in the case where money dealing alone is concerned, we may learn much as to the certainty with which effects follow causes in those more complicated and lengthened transactions in which manufacturing industry is concerned. The money bargains existing at any time, so far as legitimate commerce is concerned—we mean that part of monetary bargain that depends on the discounting of good commercial paper,—is a question of a few, rarely more than ninety, days. The time required for maturing any transaction involving great physical exertion—such, for instance, as the accomplishment of a contract to deliver 50,000 tons of rails,—must extend over a much longer period. By the length of such periods, usually measured not by months, but by years, the speed with which the effect of a change in the cost of production is attained and displayed must be measured. Thus while the money market may go through its full cycle of change in a few weeks, the effect of any undue inflation of the cost of manufacturing production will not become sensible for many weeks; nor will the result of any remedial measures be more rapid and more readily perceptible. Thus it is almost certain that the downward movement will continue till it reaches a point below the true level which would have been maintained by an equable and rightly paid industry.

In the Merthyr, Aberdare, and Rhonda districts, we learn from the able and painstaking special correspondent of the *Standard*, that, owing to local causes, the rate of wages has not been uniform, either in amount or in fluctuation. From 1871 to 1872, the fluctuations are represented by six rises of wages, amounting to 55 per cent., and four falls, amounting to 35 per cent., leaving a gain of 20 per cent. to the workmen at Dowlais, Sirhowy, and Tredegar, and of 25 per cent. at Abernant, Cyfartha, and Rhymney. In the collieries, the rate of day wages had advanced 30 per cent., and the piecework price of coal-cutting 22½ per cent. The coal-cutter, however, could get as much as he chose, within the limit of his strength; the other workmen only earned a fixed amount. In the Aberdare Valley, however, the rate of wages was, at the earliest period, from 10 to 15 per cent. higher than the rate in the iron districts. In the Rhonda Valley the excess was still greater. The fact is accounted for by the great deficiency of house and of market accommodation in these districts when the pits were first opened. This established a higher rate of wages as necessary to attract the miners from more convenient localities. The rate once fixed, the brisk demand for the coal prevented a reduction when, as very soon was the case, the deficient accommodation was supplied. We thus approach pretty fairly to the outcome of the calculations of Mr. Johnson. The demand for the smokeless coal of these rich carbonaceous deposits has been so great, that the sale which, in 1844, was little over 70,000 tons, rose, in 1870, to above 3,340,000 tons. The Associated Masters in 1871 owned eighteen pits in the Aberdare Valley, and eight in the Rhonda Valley, and employed 10,000 men.

It is no part of our present purpose to endeavour to apportion the blame,—we cannot call it less than the crime,—of causing so great an amount of human suffering, as must ensue from the suspension of a mighty industry, that feeds some half million mouths, between the owners and hirers of labour,—the masters and the men. No one can doubt that the terrible privations of a lock-out are viewed with the gravest anxiety, by both parties. While to the men, or to such of them as have made no provision for a rainy day in the time of their power of fixing their own remuneration,—which was also, unfortunately, the time of their executing the smallest quantity of work,—a lock-out means either starvation or mendicancy,—not for themselves alone, but for the helpless women and children; for the masters the cost is enormous. The blowing out of a furnace has been long stated to involve a cost of a thousand pounds. With regard to the most improved and costly furnaces, we have recently heard it stated at more than double that sum. Then the special peculiarity of all underground work is, the need of constant vigilance, and constant activity. Whoever may sleep in a coal-mine, there is one mighty agency that is always active. Gravity never sleeps. Over miles and miles of subterranean boring this great natural force is constantly acting, in order to fill up the gap made by man in the solid strata of the earth. The effect of this activity varies, according to the soil. A constant rain of small particles from the roof characterises certain strata. An upward rise of the floor, known as creep, occurs in others. Everywhere the miner is called on for the sharp eye, and the ready hand. Here it is a pollingboard that has to be inserted; there it is a prop to be strengthened,—everywhere, almost, have the giant struggles of the steam pump to be kept up night and day. The abandonment of many workings, for a period of not a very great number of days, is enough to necessitate an amount of work equal in toil, and far more than equal in danger, to that of the first opening of the galleries; a toil, moreover, which, unlike that of the opening, is entirely unremunerative.

Men and masters, then, are already bound over under such heavy penalties to keep the peace towards one another, that very powerful causes must be in operation in order to place them in a mutually hostile attitude. It is our conviction that the causes are not what Lord Bacon would call true causes. We believe that a profound ignorance of the laws which regulate labour must exist, before two parties so intimately dependent on the welfare of one another can be driven to opposite poles. We believe that this ignorance is maintained and fostered by theoretic writers, and more than theoretic speakers, under the pretence of superior knowledge. We cannot place two armies in hostile array without incurring immediate risk of open contest. It is of no use to put arms in a man's hands, and then to counsel him not to use them. It is of no use to teach the labourer that he is independent of capital, that his only duty to himself is to earn as much money by as little toil as possible; to organise his energies for that very purpose; and then to be taken aback when the other party to the contract acts on the same principles. War is war, and a terrible and bitter evil it is. Nor is the ultimate force of war, the infliction of death, so terrible when inflicted by the bullet and the bayonet on the volunteer soldier as it is when inflicted by the slower torture of hunger and want, or the involuntary masses of women and children. For that ultimate stress and misery of war those men are responsible who lead the labourer to organise the supply of labour as a distinct and independent interest from the hiring or consumption of labour. Those who come between man and wife are not more obnoxious to the condemnation of all good men than those who come between master and men. It may be done,—and in some cases is done,—from good and upright motives. But if moral obliquity be absent from the counsellors of contest, intellectual obliquity is only the more apparent. When master and man remember that the fable of "the belly and the members" applies to them, brisk prosperity, true alliance, and material happiness are the result. When they forget this truth,—when the head says to the hand, or the hand to the head, "I have no need of thee,"—famine and pestilence, hatred and malice, the closing of manufactories, and the decay of commerce, are questions of time alone. Every victory, of the one hand over the other, is a loss to both hands, and to the entire body. How many days of lock-out will pass before this great truth is grasped by our intelligent brothers in Wales?

THE KENSINGTON VALHALLA.

THE idea of emp'oying and promoting the revival of the art of mosaic decoration, by filling the wall-arches in the South Court of the Kensington Museum with portraits of great artists, executed in this medium, was a very fortunate one, calculated, if worthily carried out, to provide a series of figures, artistically and in some cases historically valuable, and to furnish a high class decoration of a permanent character. We say advisedly that some of them are historically interesting, for of course some of the figures are purely imaginary, and in other cases the likeness would have to be drawn from doubtful and insufficient sources. The spaces are now all occupied, with the exception of the two northern bays of the east wall, where two coloured cartoons, representing Luini and Van Eyck, fill temporarily the space ultimately to be occupied by mosaic. There are other figures in the collection which, though finished in mosaic, we may hope are to be looked upon as temporary also, though it would be invidious to particularise these too precisely. But we may take a general look round at this mosaic portrait gallery, with the view of noting what there is that is most successful in it.

The series of portraits at present stand thus:—On the east wall, commencing at the north end, we have the two temporary figures already mentioned; and then the following list, arranged in pairs in the bays formed between each roof-principal:—Phidias, Apelles; Nicolo Pisano, Cimabue; Torrel, Goujon; Wykeham, Giotto; Ghiberti, Fra Angelico; Donatello, Gozzoli; Della Robbia, Mantegna; Giorgione, Francesco d'Ulma. Crossing to the west wall, and following now from south to north, the chronological order (in the main, at least) from earlier to later, we find the following names represented:—Leonardo, Raffaelle; Torregiano, Peter Vischer; Luini, Biondel; Velasquez, Maestro Giorgio; Holbein, Michelangelo; Titian, Palissy; Inigo Jones, Gibbons; Wren, Hogarth; Reynolds, Mulready. The first thing one is struck by in contemplating the groups thus formed by the architectural division of the structure, is the singular manner in which names are combined which have no affinity under the sun. What claim has Palissy to stand by the side of Titian? or could any grouping be more oddly assorted than that of Torregiano and old Vischer? Yes, there is one still more singular; that which links Archbishop Wykeham, a mere *dilettante* promoter of architectural work, with such an original and self-inspired artist as Giotto. It may be said that those who are responsible for the arrangement took not into consideration the architectural division, but merely regarded the mosaics as so many figures in a row. Even in that case they seem arranged in a rather capricious manner; but it was a mistake to ignore the architectural subdivision, because the spectator cannot possibly ignore it. The figures form themselves to the eye into groups of two each, whether you will or no; and they should have been classed accordingly.

The first two figures, from the design of Mr. Poynter, representing Phidias and Apelles, form, however, a group perfectly in relation to each other, and are evidently intended by the artist as representing and contrasting the arts of sculpture and painting. The sculptor of the Parthenon appears in a nearly plain green tunic descending to the knee, and in an attitude in which the slightest possible suggestion of archaic stiffness of line gives a certain sculpturesque effect in keeping with the subject. The painter of Phryne and the Venus Anadyomene is a complete contrast, in attitude and costume, to the sturdy figure of Phidias: he appears as a young man with dark luxuriant hair, standing in an easy and *dégagé* attitude, the flowing lines into which his figure falls contrasting with the comparative angularity and squareness of the other figure, and the costume presenting warm and glowing colours, in which orange and crimson predominate. He holds in his hand a picture of Venus. There is admirable artistic thought and feeling in these two figures, which are executed, the one in English glass mosaic, and the other in Salviati's glass mosaic. Comparing those panels which have been executed in glass and those that

are in terra-cotta mosaic, of which there are several, it is difficult to say that either is in any marked degree superior to the other in effect; indeed, at the ordinary distance the difference is hardly perceptible, except when the spectator stands so as to view the surface at an acute angle (when nearly under the picture, for instance), when the contrast between the dead surface of the terra-cotta mosaic and the glitter of the glass becomes apparent. On the whole, perhaps, the slight lustre from the glass mosaic is an advantage to the decorative effect. Next come Mr. Leighton's two figures of "Nicolo Pisano" and "Cimabue," of which the first, in a long red gown, and holding a small bronze image, presents no striking individuality; the second is a very characteristic figure in costume and pose, and is interesting as showing how faithfully the artist has kept to that ideal of the forerunner of the Renaissance painters which he formed years ago when he painted his first important work the "Procession of the Madonna." Whether one can altogether admire the figure, so curiously spread out as it appears to be above by means of the short cloak, and narrowed to the utmost at the base by the position of the feet, is a question, and the white dress has rather a staring and bald effect. The two figures, however, like those of Mr. Poynter, contrast well. Mr. Burchett's figure of "Torrel," which follows next, has considerable power in regard to drawing and pose, but the colour is far too dingy and heavy, more especially for mosaic work, which requires decided tones of colour for decorative effect, an object which should never be lost sight of in mosaic. The companion figure of "Goujon," to which no designer's name is attached, has colour enough to render the deficiency of the other picture the more marked; the attitude is easy and graceful. "William of Wykeham" is a figure in robes and mitre, and with a crozier, and that is pretty nearly all that can be said; and "Giotto" (no designer's name) is represented in his sheep-keeping days, with a wide-brimmed straw hat, and a cloak looking the worse for wear, and (like the bishop) he also holds his crook. The figure is certainly not effective as a mosaic design; and Giotto deserved to be treated also as a person of more importance than is given to him here. The figure of "Ghiberti" (anonymous) is not fortunate: his action suggests that he has some good patterns to show, and represents a firm of dealers in ornamental and artistic metal work. His companion, "Fra Angelico," has fallen into congenial hands in being entrusted to Mr. Cope, whose quiet, subdued, and reflective style the figure of the saintly painter, with face upturned as if seeking inspiration, well illustrates; there is a fine sway and flow of line in the composition. The portraits of "Donatello" and "Gozzoli," by Messrs. Redgrave and Armitage respectively, form, whether intentionally or not, as odd and marked a contrast as could well be seen; the sculptor of St. George being represented by a figure appropriately bright in costume and energetic in pose, to which Gozzoli's wizened face and stiff figure serve as an admirable foil. "Della Robbia," in the next compartment, is a heavy and not interesting figure, and Mr. F. R. Pickersgill's "Mantegna," next to it, is disappointing, seeming deficient in the dignity and grandeur of style we naturally associate with Mantegna, in spite of the long cloak which envelopes the figure, and which requires more breaking up and arrangement, as a piece of drapery, to be effective. Next to this is what we should call without doubt the most artistic and effective design of the collection, that of "Giorgione," by Mr. Val Prinsep. A close-fitting dress, very effective in design and colour, allows the figure to be freely seen; the artist stands sideways to the spectator, palette and maulstick in hand; the broadly-striped trousers are not only pictorially effective, but the stripes give the means of indicating the contours, by their slight turns and twists, to an extent which mere shading can hardly accomplish in mosaic. This is quite an artist's figure, in idea and costume, and does high credit to its designer. The figure of "Francesco d'Ulma," by Mr. Westlake, concludes the series on the east wall rather poorly. We presume those who placed the figure here knew who Francesco d'Ulma was. Jacobus von Ulm, otherwise called Giacomo d'Ulma, we know of as an artist in stained glass in Germany in the fifteenth century; but of Francesco d'Ulma we know not, and biographical dictionaries give no word of his existence. Has there been a mistake in the name? The figure is in the dress of a monk, examining a piece of stained glass.

On the western side some of the greatest names in painting are not very happily illustrated. We commence with "Leonardo" and "Raffaelle," of whom the former, as portrayed here, is but a kind of lean and slippered figure, with little dignity or impressiveness. In the figure of Raffaelle the drapery is finely treated, in long sweeping lines, giving movement to the figure; but the colour is not fortunate, and the face lacks brightness and expression. This can only be considered a very insufficient treatment of so beautiful a subject. These designs, which are unnamed, are, we presume, "home-made." In the next panel Mr. Yeames has given us his idea of "Torregiano," who stands heavily robed, mallet in hand, and with a fearless and self-confident action in keeping with his character, though not presenting the aspect of the bully which he is commonly considered to have been, in virtue of his assault and battery of a greater artist. Mr. W. B. Scott's "Peter Vischer" groups with this, and is taken in costume and attitude, if we mistake not, from an historical portrait, either in painting or sculpture. Following these are "Luini" and "Blondel": the former being the executed mosaic of one of the cartoons before alluded to as temporarily placed in niches on the east side; it strikes us as a weak and mannered figure. That of Blondel is much more effective in attitude and in the disposal of the drapery; but we can discover no certain indication as to which of the several owners of the name known in art-history is here represented; whether it is one of the two architects, or whether it be Jean François Blondel, noted for his engravings and etchings; we incline to suppose the latter. The figure of "Velasquez" which follows is not unlike his own representation of himself in one of his pictures, from which it is taken; but as a single figure in a panel it is hardly effective. The companion figure of "Maestro Giorgio," if we mistake not, was designed by Mr. Hart, and was exhibited in one of the International Exhibitions: it is marked by considerable individuality of treatment in attitude and expression, and the colour is rich and effective. How many visitors to the "South Court," we wonder, know who "Maestro Giorgio" was? Well, he was an artist in jewelry and silversmith's work, and is appropriately represented holding up a specimen of his workmanship to the light to examine it more closely; but it seems rather singular to find him here in a list from which Cellini is absent. Mr. Yeames's "Holbein," in his long blue robe, looks sturdy, pleasant, and matter-of-fact, and would make a very good companion, in style and character, to one of his own portraits. The "Michelangelo" which follows it we repudiate utterly; the figure is so posed as to make it look short,—a great mistake for decorative painting, especially as seen from below; and altogether it is an awkward-looking and uninteresting figure, quite unworthy of its subject. Nor can we feel much satisfied with Mr. Watts's "Titian"; the head appears to us to be too large, if we accept Titian's own representations of himself as correct, and there is a stiffness in the attitude not, to our thinking, in accordance with the traditions of the painter's courtly habits and patrician manner of life. Mr. Townroe's "Palissy" is a good figure; we alluded above to its singular unsuitability as a next-door neighbour to Titian. "Inigo Jones," by Mr. Morgan, is a fine commanding figure, which architects may contemplate with pleasure, as that of a worthy representative of their profession; and "Gibbons," who succeeds him, is made as much of, perhaps, as is possible with a costume which lends itself so very ill to mosaic design. Then we come to architecture again in the portrait of "Wren," designed by Mr. Eyre Crowe, and in which the ease of manner and the slight bend of the figure, as if engaged in paying some courtesy by speech or manner, not only symbolise very pleasantly what is on record of the amiable character of "the Surveyor," but also form a very effective contrast with the Inigo Jones portrait just mentioned. "Hogarth," by the same artist, is equally characteristic in treatment; the well-known broad face upturned, and the legs crossed in a careless and awkward manner, suitable enough to the artist who asserted that he knew the "line of beauty" so well, in theory, but could never carry it into practice. The inevitable dog appears of course. The "Sir Joshua" of Mr. Phillips is not a very satisfactory representation of the courtly P.R.A.; the action is peculiar, rather wanting repose, and not explaining itself quite; and this figure, again, appears to us too short. We finish the series with the only figure in the costume of the present day, that of the veteran "Mulready," by Mr. Barwell; the dress is certainly not adapted for decorative effect, but the figure, holding a drawing for examination by the opposite corners (which the artist's friends remember as "his habit when he lived"), is very good and truthful in attitude and expression, and strikes us as one of the most successful on this side of the room.

It is a pity, as it seems to us, that a desire to introduce representatives of all branches of art should have led to the filling up of some of this limited number of panels with representations of those whose names are without general fame, and with whose portraits, true or imaginary, no great general interest could be connected. And we must think that the artistic power and interest of the designs themselves are very unequal, and that not a few niches might be advantageously re-filled, when opportunity serves, with work of a higher and more lasting interest.

THE QUEEN ANNE AND OTHER FORMS OF FREE CLASSIC ARCHITECTURE.

ARCHITECTURAL ASSOCIATION.

AT an ordinary general meeting, held on Friday evening, the 19th inst., Mr. G. H. Birch in the chair, Mr. J. Young was elected a member.

Votes of thanks were passed to Mr. Ewan Christian and the Rev. D. Eldsdale for the convenience offered to the members on the occasion of a recent visit to the Church of St. John the Divine, Kennington.

The President stated that he had received a communication from Mr. A. Marks to the effect that the Oxford Arms, Paternoster-row, was advertised for sale by auction, intimating that photographs of the building, one of the few old hostelries in London now remaining, would be on sale: four views would be taken, and the cost would not exceed 10s. 6d. per set.

It was also announced that the Secretary of the Statistical Society had stated, in reference to the Howard Medal of 1875, that the title of the essay was "The State of the Dwellings of the Poor in the districts of England, with special regard to the Improvements that have taken place since the Middle of the Eighteenth Century, and their Influences on the Health and Morals of the Inmates."

Mr. J. J. Stevenson then read a paper, entitled "Queen Anne and other Forms of Free Classic Architecture." In the course of his remarks he said that their modern architecture had lately been abused on the ground that it did not progress like engineering or shipbuilding, which continually produced new developments different from anything the world had seen before; but contented itself with reviving and reproducing the results of the art some centuries old. The assertion was, to a great extent, true; but it did not follow, as those who made it would imply, that this was not the best and indeed the only course open to them. For there was this difference between architecture and engineering, or shipbuilding, that in these latter there was no limit to the progress, or at least they had not as yet attained to the limit. They had lately immensely improved, and were constantly improving, the sailing qualities of their vessels as regarded speed; and they would probably never be able to assert that they attained the utmost speed possible. But architecture, in so far as it ministered to their taste and their love of the beautiful, might have already solved its problems. It might continue to change after it had, in pursuing any course, reached the highest perfection possible for it in that course. From the necessity for change, and love of nobility implanted in man, it must continually change; but the change in taste was not necessarily in advance; on the contrary, history told them that it was frequently retrogression and deterioration. Greek sculpture could not go on advancing in refinement and beauty for ever. Its period of highest development was limited to fifty,—in some cities to thirty,—years. The great Italian schools of painting gradually reached a climax from which they gradually declined. Gothic architecture finished itself in Beauvais Cathedral in its supreme effort after height and tenuity of construction. There was no reason why the proportion and beauty of their rooms should continually go on improving, or their ornamentation become daily more refined and beautiful, any more than that a people should constantly advance in courtliness of manners, or strictness of morals, or religious observance. On the contrary, it might be a characteristic of

an age, and the truest sign of its advancement, to look back with admiration on some former time to find its life in reviving the sentiments and feelings of that time, and adopting the forms in which they found expression. Such a movement, therefore, as the Gothic revival was perfectly natural and legitimate, and it was unavoidable that every one should be affected by it who was not too ignorant or too dull to be influenced by the best thought of his time. Such a revival adopted so much of the past sentiments and modes of thought as was consistent with the present life; and so the earliest architecture of the Gothic revival at Strawberry Hill and Abbotsford was a mere outside show of castellated Gothic features thrown over the common vernacular, and not the natural outgrowth of that. It was a mere sentiment, which did not really affect the ordinary daily life, and perhaps truly expressed the extent to which the romantic revival had influenced modern times. But whether or not the early attempts at Gothic,—a mere surface sentiment on the ordinary life,—truly represented the depth of the Gothic revival, it was impossible that the revival could rest content with them. It was inevitable that, with the study of old work which everywhere commenced, and the consequent perception of its logical consistency and beauty, the imperfection and absurdity of such representations of it should be felt. Architects had shown the way by a few original men who had learnt its secret, drunk in its spirit, and expressed in new works, which it was false to say were mere copies of old. It was a curious phenomenon, showing how truly Gothic had become a part of its admirers, that in the minds of most of them it went through the same natural changes as in its original growth of Early English or Early French, of Decorated, and now with some, Perpendicular. In all these styles, the Gothic revival had achieved marked success in churches, and it was now established in the proper style in which to build places of worship, to whatever sect belonging. It embodied traditional sentiments and feelings which still influenced them. Another reason why it would continue to be used for churches, even though some other style might be used in houses, was that constructively, it was suited for them, but not for ordinary dwelling-houses. By Gothic he understood the development of arched construction in the pointed arch, in vaulting, and in traceried windows, which the architectural genius of the Middle Ages produced. The progress of the style was a development of these features, none of which had a natural place in modern houses. They were suitable for such buildings as churches or great halls; but not for houses divided into a number of comparatively low stories; and, therefore, even in the Middle Age houses, the style never properly showed its peculiar and characteristic features. Gothic architecture did not grow up as the expression of domestic wants, and in attempting to express them, even in Mediæval times, could not properly make use of its most characteristic features. Hence, in this country in the Tudor age, Gothic architecture developed into Perpendicular; in France, at the same period, into the earlier style of Francis I.; and then it gave place to Classic. It was, therefore, to be expected that in its late revival difficulty should have been found in applying the style to domestic buildings,—a difficulty increased by the fact that Gothic houses were an innovation in established custom, which affected every hour of the life, while Gothic churches continued in use from old time, and had been familiar to every worshipper. From its nature unsuitable for domestic purposes, and a serious innovation on established habits, Gothic architecture in the late revival, while appropriating the whole field of ecclesiastical, had little affected domestic buildings. He believed that by using these styles for houses they better expressed the true spirit of Gothic than by copying for this purpose Gothic forms. One chief characteristic of the Gothic revival was a turning with interest to the past, and finding in it elements suitable for their own use, which to their loss had been neglected and lost sight of. Now, while for churches the revival of the past meant the revival of the thirteenth and fourteenth century architecture, while they found these perfectly suitable for modern use, it was not so as regarded houses. The Italian cities, whose period of greatest power and wealth, even its Middle Ages, possessed still some noble Gothic palaces; but in North Europe, and in this country especially, the *Renaissance* seemed to have brought with it an increased material well-being as regarded dwelling-houses, which had caused the replacement of the earlier Gothic houses by new ones of that date. The fact that Middle Age houses were mostly of wooden construction, and therefore more perishable than stone or brick, might all account for their disappearance. The revived use of brick, so strangely neglected in this country during the Middle Ages for the older wooden houses, had left their old towns, not Gothic but *Renaissance* in style; and, for a revival of old brick architecture, sent them to a much later period than the Middle Ages. With the exception of a few unimportant and mutilated relics, there were no remains left to turn to for guidance, and an unprejudiced study of these remains would, he felt, surely convince them that they were the products of habits and manners which were not those of their day. That turning to the past, therefore, which was a main feature of the Gothic revival, found food for itself, not in Mediæval but in *Renaissance* Domestic architecture. Gothic was developed originally for ecclesiastical not domestic buildings, and, when applied in the late revival to the latter, a new development of the style had to be created, which, consequently, had more of modern than ancient character, and, somehow, had adopted the worst characteristics of modern architecture,—pretentiousness, flashiness, coarseness, and loudness. This was one cause why those who loved old Gothic had become disgusted with modern Domestic Gothic, and had abandoned it for the free Classic styles, in which they found the simplicity and quietness of old work, its picturesqueness and quaintness, its want of formality and freedom from restraint, and especially that flavoured of the past, the returning to which was a chief motive power of the Gothic revival. One of the most powerful arguments in favour of Gothic, as opposed to the Classic, which prevailed at the time of its revival, was its freedom and pliability; that it was, not like Classic, governed by rules, which it insisted upon till it crushed out individuality and life. In abolishing this tyranny, the Gothic revival did good service. But this freedom of Gothic the free Classic styles which succeeded it inherited. Symmetry, though aimed at as a rule, was not essential, and regularity was freely abandoned. One of the principles which the Gothic revival insisted on with energy and eloquence, was the necessity of *truth* in architecture; that the construction should be made apparent and beautiful, and should not be hidden under some fair-seeming mask, which had no affinity with it, or even represented a different mode of construction. And in this sense a reform was certainly needed, which the Gothic revival did a good service in promoting. But this element of truth was not the peculiar possession of Gothic architecture, and, alas! modern Gothic has too often found the temptations of a deceitful age too strong for it, and had fallen into the sins of the style it attempted to displace. The principle of absolute truth in architecture had to bend to many modifications in actual practice. Domestic architecture must be pleasing. Modern Gothic had rightly, he thought, modified its high pretensions in regard to truth both of material and construction. Still, to the noblest architecture, which could seldom be domestic architecture, both were essential; but if they carried them out in modern times, the result would not be Gothic, either modern or ancient. He held that the free Classic styles of architecture, of which "Queen Anne" was one of the least important, though it had given its name to the recent movement among Gothic architects in their favour, furnished a means of expressing the most valuable characteristics of the Gothic revival, and that it was natural and inevitable that those who, imbued with its spirit, had lived over again in their own lives the successive phases of its historical development, should make the same advance from them which had been made in the Renaissance age. For there were elements of modern thought and sentiment which the Mediæval revival did not express. As to the Gothic age, formerly the Renaissance succeeded which sympathised with Classic art in its expression of the beauty, and richness, and fulness of natural life, which found expression in the gorgeous colouring of Titian, so the Mediævalism of the day had been followed by the revival of a similar spirit, which, in the province of architecture retaining much that it had learned from Gothic, sought besides expression of modern feelings and convenience, which it found in the various developments of the free Classic styles. His object in this paper had been to explain the fact, of which there was sufficient evidence, that these free Classic styles were now practised by architects, who, not long ago, were such exclusive admirers of Gothic that they could sympathise with Mr. Ruskin's denunciations of the foul tide of the Renaissance. He had no desire, even if it were practicable, that any one who loved and admired Gothic architecture, and felt that it was the style which best expressed his thoughts, should give up practising it, and, from grounds of reason or logic, endeavour to adopt a style which he thought ugly, or did not care for. He would think that a misfortune to their art, for it mattered little what style was used provided the architect understood it, and could use it correctly; and, in using a style which a man admired and loved, he would best give expression to those qualities which gave architecture its value,—beauty and refinement, picturesqueness and grandeur, and nobleness. Therefore, if they loved Gothic, they need not abandon it, but should endeavour to master its principles and forms. Having no desire to urge the adoption of these styles, he had not attempted to defend them from the faults of which architectural critics accused them. They were not faultless,—far from it,—they had not the purity of Greek, or of thirteenth-century Gothic; but they appealed to him as a true expression of the domestic life of the present time, when raised above commonplace; and, touched by art, to him they were living styles, and, therefore, better than the purest Greek or Gothic, if it was not the natural outcome of their life and daily thoughts. Though he had no wish to argue in favour of the general adoption of these styles, he could not help mentioning one practical advantage in employing them, namely, that fundamentally in their systems of construction, in their forms of moulding, they were the same as the common vernacular style, which every workman had been apprenticed to, had been used to work in, and consequently understood. To produce good architecture generally throughout the country, it was essential that those who guided the art should choose paths where the workman could follow; for, as it had been so it would be, a large proportion of the building of the country would be done by builders and workmen without architects. In conclusion, he said that the free Classic styles were the vernacular architecture, with a spark of life added,—a touch of interest and art. Dared they hope that the spark might revivify the mass, that the interest and the guidance of those who cared for art might give artistic life to the current commonplace traditions, that they might see again a living national architecture?

Mr. L. W. Ridge said that at the next meeting he was to read a paper on the same subject as Mr. Stevenson's. He had a distinct notion of treating the matter in regard to the influence on the Gothic school, but desired to lay aside the idea that he was necessarily taking a view of the subject antagonistic to Mr. Stevenson, for he believed that no essential difference of opinion existed between them, and felt that it would be the greatest mistake if the profession were divided in opinion upon the subject,—a mistake from which the profession had suffered many years in consequence of the division between the Gothic and the Classic schools. In one respect he shared the admiration of Mr. Stevenson for the free Classic styles, and that was because they were free, not because they were Classic.

Mr. E. J. Tarver considered that great watchfulness was necessary in the use of the Queen Anne style for the exterior; he had found it of greater use internally.

Mr. R. Phené Spiers said he considered that the views put forward by Mr. Stevenson were somewhat of a novel and startling character. Speaking from personal experience, Mr. Spiers said he might mention that about twelve years ago he returned from France imbued with strong Classical notions, and a great dislike to anything Gothic. He had to fight his way for years with students who were strongly imbued with Gothic predilections, and he experienced a difficulty in finding arguments in support of his views, seeing that he had been educated in argument in France, where they had it all their own way. But now the tide was turned, and if the present question had assumed the form of general discussion, he should have felt disposed to take up the style of the Gothic in preference to the Classic. He differed from Mr. Stevenson in many respects, and especially with regard to the view he took of the Perpendicular style, which, Mr. Spiers was of opinion, was first taken up by the modern Gothic revivalists, the purer forms

being better fitted for revival; so much so, that, if it had been possible, the Norman structure would have been raised as being of a still purer type; but it was out of the question, on account of the thickness of the piers and smallness of the windows. Supposing Mr. Stevenson's view correct, what was to become of all the designs of the Elizabethan and Jacobean periods? He was at a loss to understand how long the Queen Anne movement was going to last. But what he feared the most, in connexion with the Queen Anne movement, was its baneful influence over students. If the Classic architecture was to be learnt at all, it must be learnt by going back to the earlier elementary examples, and it was impossible to learn what really were the principles of that style by taking decadent and debased examples of Queen Anne, as exemplified in Queen Anne. He maintained that the method adopted in the French school, of imparting a knowledge of Classic architecture, was the proper one, the students being thoroughly grounded in Classic principles. In England, some of the best architects were not brought up in the Gothic school; and he was sure that no student, starting with Queen Anne, could meet with the success of Mr. Norman Shaw. Mr. Stevenson had recommended Queen Anne on the score of convenience, and its applicability to domestic architecture; but they wanted principles on which to reason, such principles being entirely wanting in the Queen Anne style. In conclusion, he confessed his surprise at the views enunciated by a gentleman who was formerly attached to the Gothic school.

Mr. T. B. Blashill said that whatever fault might be found with Mr. Stevenson, they must at least give him credit for consistency. As in dress so in architecture, there were changes of fashion, and so it was incumbent upon them to suit the tastes, and endeavour to meet the wants of the times. Instead of aiming at the reproduction of what was antiquated and out of fashion, students ought to have impressed upon them the necessity and importance of complying with the requirements of the age, the want of aptitude in that direction being so often charged against architects. The "Queen Anne" style was merely a change of fashion, not of style; it was abject copyism, not of beauty but of ugliness. The reason they had the "Queen Anne" style was on account of its adaptability to domestic requirements; and he argued with Mr. Stevenson that the Gothic was an ecclesiastical style, and not adapted to ordinary requirements. Architects had no alternative but to suit the convenience of their clients, and, in spite of want of uniformity, the buildings must be adapted to the purpose for which they were designed. Students should keep before their minds the necessity of fitting their architecture to the period of the people, and not be continually thinking of the old styles. They must think more of fitting clients with the buildings they wanted, and look more to the actual wants of the period.

Mr. Stevenson, in replying, said that he had no wish to persuade one man to take up one style of architecture more than another, but had merely attempted an explanation of how certain things had come about, and the style had been manifested. He did not deny the possibility of having laid too much stress on the sequence of styles of Gothic taken up in the revival, yet was the style more nearly akin to Classic. He considered that those who had been trained with Gothic freedom were not so successful as those who had been brought up steadily by going through the five orders. It was desirable that the students should, in the first instance, be made acquainted with those laws and principles which had been ascertained and settled by human experience, and which were, to some extent, embodied in the orders. If a style was perfected, it was better to follow it than to make futile attempts at originality.

Machinery Accident at Halifax.—On the 16th inst. an accident occurred at the Saw Mills of Messrs. J. Charnock & Sons, Pellow-lane, Halifax. About eight o'clock John Poulter, aged 40, of 30, Brook-street, Mount-pleasant, went into the cellar beneath the room where the saws work, for the purpose of mending a strap; and, having done this, he was putting the strap on the drum, when his leg was caught in the machinery, and he was whirled round the shaft at a terrific speed. He was instantly killed, and as the shaft was nearly close to the ground his body was almost torn to pieces.

THE ADULTERATION OF FOOD AND DRUGS BILL.

THE Bill brought in to repeal the Adulteration of Food Acts is so strikingly reactionary as to demand the careful attention of all who are interested in the subject, and would maintain any of the advantages which the existing Acts afford. There may be weak points in these, and individuals may find some of the clauses operate harshly. The experience of some of those who have administered the law under these might be usefully appealed to with a view to improvement; but to get rid of the Acts altogether, and substitute so inefficient a measure as that now before us is most undesirable, and would be very opposed to the public welfare. The nature of the Bill may be shown in a few lines. Clause 4 provides that "no person shall *knowingly* mix, colour," &c. Clause 6 says "no person shall *knowingly* sell any article of food, or any drug, which is not of the nature and quality of the article demanded," &c., with certain exceptions, and amongst the exceptions appears "where, according to the usage of trade, it is sold in a mixed state." And so it goes on, and we maintain that under such clauses it would scarcely be possible to obtain a conviction. Further, the arrangements for obtaining an analysis are much too complicated.

FALL OF HOUSES.

THREE large houses in course of erection, in a street leading out of Earl's-court-road, Kensington, fell to the ground, just before the men left work, on Wednesday in last week. They were up, nearly ready for the roof. Two or three of the bricklayers were hurt, but, we believe, not seriously. Our object in mentioning the disaster is not to bring any increase of trouble to the parties concerned, but to lead builders to think of what may be the result of haste, inattention, or cheeseparing. The whole seems to have gone down like a house of cards. In five minutes, what was a good property had become a heap of rubbish. A slip in the foundation of one of the party-walls, the predominance of bats over bricks, the fact that there was no dangerous excess of lime in the mortar, and the occurrence of two or three freezing nights, may or may not be at the root of the accident. Anyhow, other builders (and surveyors to estates) will do well to remember that such things will happen under certain conditions; and, having that knowledge, act accordingly. As long as walls stand, a speculative builder usually considers it is quite impossible they can fall. It is only when they are in a heap at his feet that he says, "What a fool I was."

IMPROVED DWELLINGS AND THEIR BENEFICIAL EFFECT.

AT the last ordinary meeting of the Statistical Society, Mr. C. Gatliff read a paper on "Improved Dwellings, and their Beneficial Effect on Health and Morals, with Suggestions for their Extension." He said that in the year 1841 an association was formed for building improved tenements for the working classes, with full compensation to the capitalist for the money invested. A favourable public feeling was created by the formation of this company (the Metropolitan Association for Improving the Dwellings of the Industrious Classes), and in 1843-4 and at subsequent periods other societies had been formed, till at the present time 7,558 improved dwellings, capable of containing a population of 36,078, had been erected at a cost of about 1,233,786*l*. Many of the associations had still considerable funds in hand, and were extending their operations, or were prepared to do so when suitable sites could be obtained at reasonable cost. From statistics which have been carefully compiled he could assert that the rate of mortality in the improved dwellings belonging to the Metropolitan Association during the last eight years had not exceeded 14 per 1,000, whereas the rate of mortality in the metropolis generally had been upwards of 24 per 1,000. At the same time an analysis of the causes of death compared very favourably with a similar table of the Registrar-General's, there being a much less proportion of deaths from zymotic and developmental diseases. The mortality among children under ten years of age was also but half the percentage which was noted among the general population of London. One material fact which had been elucidated in the erection of these buildings by the Metropolitan Association was the comparatively small space which they occupied, even if the large courtyards left for recreation and ventilation were included, as in Westminster, which is the most densely populated part of the metropolis, the population was 235 persons to the acre, while in the dwellings provided by the Metropolitan Association the average was 1,140 to the acre. It was obvious, therefore, that if the promoters of the various metropolitan improvements were compelled under their respective Acts of Parliament to reserve sites for improved dwellings in the immediate locality from which they displaced so many of the labouring population, such improvements might be carried on with great benefit to the working classes. In addition, however, to the great decrease in the rate of mortality and disease which was noticed in these model dwellings, the check given to immorality and crime formed an appreciable benefit, as the supervision carried on effectually cleared the building of all persons of bad character. In offering some suggestions for the extension of these improved tenements he (Mr. Gatliff) would remark that to facilitate the obtaining of sites the assistance of Parliament might be required to give compulsory powers to purchase and pull down many of the existing dens of disease and crime, and to erect improved houses in their place. He would vest the necessary powers for such works in the Metropolitan Board of Works and the Corporation of the City of London, and should an additional rate of 1d. or 2d. per pound be incurred by this action he considered that such additional charge would soon be amply recouped by a reduction in the rates at present occasioned by disease and crime. A rate of 1d. per pound on the rateable value of property in the metropolis would produce nearly 90,000*l*., or sufficient to pay the interest on a loan of two millions sterling, and to redeem the principal in forty years if the money was raised at 3½ per cent., and this sum of two millions if raised would remove many of the present disease-stricken courts and alleys, and would replace them by improved dwellings. The Public Works Loan Commissioners might also be empowered to make advances for such purposes at a reduced rate, and the scheme might be further assisted if the Government made it compulsory upon all the railway companies to carry working men at the rate of a penny for at least ten miles, as some were obliged to do at the present. With such an encouragement of cheap travelling a large number of working men would be induced to reside in improved dwellings erected a little way from town, and this would tend to reduce the overcrowding in London. He would further state that the erection of improved lodging-houses in the metropolis might be regarded as a safe investment, and in support of this he referred to the audited accounts of the Metropolitan Association for the last year, which showed a gross rent-roll of 12,257*l*. 5s., of which 12,101*l*. 1s. 3d. were actually received, leaving a deficiency of 156*l*. 3s. 9d. only of the gross income for unavoidable vacancies during changes among 766 weekly tenants, and during repairs of 3,032 rooms, and from all causes. He would, in conclusion, refer to a still less fortunate class of persons to that which occupied the present improved dwellings—persons who, from their small and precarious earnings, could not afford to pay the rents (varying from 2s. 6d. to 9s. 6d. per week) charged in such houses; and he felt that the greater the facilities which were given for the erection of improved dwellings in London the more would the lower classes benefit, as they would be relieved from their present overcrowded state.

THE COTTAGE HOMES OF ENGLAND.

THE JUNIOR PHILOSOPHICAL SOCIETY.

AT the ordinary meeting held on Friday, the 19th inst., at the rooms of the Society, No. 6a, Victoria-street, Westminster, a paper on "The Cottage Homes of England" was read by Mr. Francis Butler, member.

The paper dealt first with the history and condition of the cottagers themselves, from early times, touching also on the history of agriculture as far as was necessary.

The many and various points connected with cottage building were then taken in order,—the lecturer showing that if we wish to build cheaply and well we must build *naturally*—by conforming in nearly all cases to local style and workmanship, and also and perhaps chiefly to local materials—making of course such improvements as recent years have seen introduced, especially

with regard to the general plan and the number and disposition of the bed-rooms. The latter for an ordinary cottage should not be less than three in number.

The lecturer said that if these points were attended to the modern cottage—while being a better habitation, would also present the same satisfactory appearance in the landscape which the old cottage is so well known for.

The "cob" walls of Devon and elsewhere were shown to have advantages, and thatched roofs, while allowing of a natural and gradual system of ventilation, kept the interior of the cottage at a warmer and more even temperature than could be attained perhaps by any other form of roof.

The influence which the cottage exercises either for good or evil as an object in the landscape was illustrated by plans and sketches, and the absolute necessity of using the materials found on the site was again urged.

With regard to the all-important question of cost, Mr. Butler maintained that if the various points he had raised were attended to, cottages could be built so as to yield a fair return upon the outlay. A more important question now, perhaps, than formerly was, owing to various causes, the old ties which had bound the labourer and his forefathers; and which, if not altogether severed, would bind his children also to the one spot, seemed likely to be disturbed, thus creating in the minds of some landlords and employers a disposition to look at cottage building from a five or six per cent., instead of from the old point of view, which regarded the labourer more as one of the family.

As an illustration of the possibility of this class of building to return a fair interest on the amount expended, and also as offering a suggestion on the subject of accommodation, the lecturer showed a scheme for a co-operative Home for twelve or more single labourers, each having a separate bedroom in a building comprising a large common or club room, kitchens, washplaces, and lockers for the men; while outside were tool-sheds, workshops, and allotment-gardens; a skittle-alley also was not forgotten.

Inclusive of the cost of land, a return on the outlay was shown in this case of more than six per cent.

The President of the Society, Mr. Frank Clarkeson, F.G.S., expressed the thanks of the members generally to Mr. Butler for his paper, and discussion followed, in which Messrs. Willcocks, Hilder, Walmesley, Goodhart, Coombs, Bartlett, and others took part.

MARINE AQUARIUM FOR SCARBOROUGH.

A BILL is now before Parliament authorising the grant of powers to the Scarborough Marine Aquarium Company (Limited) for the purpose of acquiring a site for the construction of an aquarium, and other purposes, in the northern "Queen of Watering Places." The capital of the company, amounting to 37,500*l.*, has already been subscribed, and Parliamentary powers are needed for the alteration of certain roads by the company, and the construction of the aquarium on a site to be granted by the Corporation of Scarborough on the seashore. Under the contract with the Corporation the work must be completed ready for public use by the 1st day of November, 1876, and a minimum sum of 20,000*l.* is to be expended in its construction. The site is to be leased to the company for 999 years at a yearly rent of 200*l.* a year, and contains in the whole about 7,500 square yards. In addition to the aquarium there will be conservatories, ferneries, &c., a concert-room, and refreshment-room.

RAVENSTHORPE DRAINAGE.

THE main drainage works of the Ravensthorpe district being now in an advanced condition, the Local Board have instructed the engineer, Mr. Malcolm Paterson, to prepare a complete scheme for the drainage of the private streets, &c., which hitherto have been provided with merely temporary drains. In accordance with such instructions, Mr. Paterson attended at the last meeting of the Board, February 18, with the necessary plans and sections, together with a report describing the proposed scheme, as well as the existing sanitary condition of the district, and recommending that, if the consent of the owners of property can be secured, the Board do proceed to carry out the whole in one contract. The district is of a very flat nature, with a sandy alluvial subsoil, necessitating careful treatment in the execution of works of sewerage. The total cost of the main drainage works now nearly completed by the Board will amount to about £11,000. This includes cost of land and arbitration expenses, sewage pumping and precipitation works, storm overflow and main sewers, cost of superintending, &c. The length of private drains proposed to be carried out is about three miles.

THE CHANNEL TUNNEL.

THE Bill for granting Parliamentary powers to the Channel Tunnel Company (Limited) gives power to the company to acquire, under the Lands Clauses Act, within three years from the passing of the Act, certain lands, houses, and buildings at the foot of the cliff in St. Margaret's Bay, in the parish of St. Margaret-at-Cliffe, Kent, lying between Ness Point and Covey Burrow Point, and including the beach and foreshore abutting on the said lands.

MARKET HALL, CHESTERFIELD.

SOME time back, the corporation of Chesterfield purchased the Market Hall property, and Mr. J. Crossley, of Newark, has decorated it for them. The ceiling is divided into three large panels, the ground colour being a warm vellum; the centre of each panel has a pendant of gas, round which is a floriated ornament conventionally treated in various colours. The panels are divided by an orange-coloured border, with an interlaced ornament in brown, and divided by lines in gold colour and a cresting of warm orange and pink. The cove, 7 ft. deep, has a fluted ornament in rich brown, with white and gold coloured ornaments upon it, and out of which spring the vine and rose alternately, also conventionally treated. The cornice below this is picked out in vellum, neutral green, crimson and gold, with a fringe of soft warm red and gold colour. The wall beneath is divided into square and semi-circular panels, which are papered with an ornamented raised paper, and painted a warm vellum colour, with a soft red border. The sunk part of the moulding round the panel is painted a turquoise blue, with a small pale blue ornament, and raised gold beads. The upper circular part of four panels is a soft pale pink, upon which is painted arabesque ornament in various colours, springing from a centre medallion, upon three of which are painted female heads, representing Music, Science, and the Drama. In the fourth, facing the entrance, are painted the borough arms. These medallions are well painted, and have a very charming effect. The styles round the panels are a greenish gray. The lower portion of the wall or dado is tiled with Minton tiles, the colour of the diaper being black, soft deep slate, and gold colour, with a rich border in various colours. The windows, which are circular-headed, are painted a copper colour. The mouldings around are vellum, with a blue border and white ornament. The doors and other woodwork, including the stage, are also painted copper colour, each panel of the door and stage having a border of black, with a gold ornament, the frames round the doors having an ornament in black and gold. The work has been done under the direction of Mr. S. Rollinson, architect, Chesterfield.

COMPETITIONS: *e.g.*, THE WEST HERTS INFIRMARY.

SIR,—Is there not some one able to remonstrate effectively with the Governors of the West Herts Infirmary as to the course they propose to take? Can they hope for an effective architectural competition under the following circumstances?

The advertisement and the rough specification recently issued give the required accommodation at forty in-patients, at least eleven resident officials, an out-patient department, dispensary, &c., and proper outbuildings. Plans and elevations, and estimates of cost for these not inconsiderable buildings are invited from architects.

1. The drawings submitted are to remain the property of the Governors.

2. The Governors do not bind themselves to accept any one of the competing designs.

3. There is no promise to appoint a professional referee.

4. The only premiums offered are 50*l.* and 30*l.*, and nothing is said about the carrying out of the work.

It would be unfair to our profession as a body to indulge in reproaches, or even in ridicule, of propositions of this kind. No greater mistake could be made by any one than to suppose that any thoroughly competent man will contemplate such a venture at all seriously.

But should not some good friend of the Infirmary make clear to the governors that they appear to be misusing the funds entrusted to them?—throwing away in a useless,—necessarily inefficient,—competition, money that might serve useful ends?

There seem to be only three explanations possible, and they all point to a (however unintentional) misapplication of the subscribers' money:—

1. That some architect has been virtually selected by some of the governors, and that a *sham* competition has been devised in order that he may win an obvious victory, and secure and justify his unquestioned nomination for carrying out the works.

2. Or that some architect has been actually selected; and the governors desire to supplement his knowledge of the neighbourhood by ideas from a distance.

3. Or that the governors are acting through ignorance of building matters, and of the architectural profession. They cannot know that the terms of their competition are out of the domain of all reasonable consideration, and that the Royal Institute of British Architects is certain to explain this to them forthwith.

Before concluding, may I venture to ask what further action the Institute is going to take about monstrous competitions. When at the second conference I voted steadily for professional interests and reasonable payments, and assisted thus in framing many excellent rules for guiding competitors and competition committees, I had an impression that all the work was serious. Professional union was to bear fruit to every one's satisfaction. I thought that shortly no competition would be advertised without conformity to our rules; or, if by chance some remote district betrayed ignorance of our professional laws, a written communication or a personal interview would, as a matter of course, bring unsatisfactory conditions into harmony with the general lines laid down by the professional parliament. But, sir, the advertising columns of your journal often read just as they did before all those present and represented at the Congress were bound in honour to stand by the regulations determined on there. . . . . As I take it, these advertisements represent the Institute failures, where suggestions and the warning voice of that professional body have been unheeded. Can no remedy be devised for such cases? Would it be unfair, for instance, for the Institute to advertise the names of the competitors in every shabby competition, in order thus to show the profession and the public that those who are pledged to keep faith with one another uniformly do so? The *guerillas* would have little reasonable ground of complaint; they could only desire such records of their actions as pleasant uncostly advertisements, differing in many ways, as each of them must, from

A MEMBER OF THE CONFERENCE OF ARCHITECTS.

International Horticultural Exhibition at Cologne.—An International Horticultural Exhibition is to be opened on the 25th of August till the 26th of September, 1875, in the grounds of the Flora, Cologne. Her Majesty the Empress and Queen of Prussia, together with the Crown Prince, encourage the scheme. Negotiations for the nomination of commissioners from foreign Governments have already begun by the Minister of Agricultural Affairs. Under the head of garden architecture it is to include:—Plans and models of gardens, pleasure-grounds, and parks of all kinds; glass-houses of all kinds—their heating, ventilation, shade and cover contrivances; summer-houses, pavilions, verandahs, arbours, tents, marquees, as also ground-floors in squares, tiles, mosaic, cement, asphalte, or other materials; garden furniture; bridges, wharfs, ferries, aviaries, swan and duck houses, &c.; construction of roads and walks; rock, tunnel, and grotto work; fences, garden-gates, espaliers of various kinds; models and plans of the constructions specified in list *b* and *h*, together with an estimate of prices.

PROFESSOR BARRY'S LECTURES AT THE ROYAL ACADEMY.

No. 1.*

IN opening a new series of lectures, it is a pleasure to me to meet once more the students of the Royal Academy, and particularly those devoted to the art of architecture,—an art so glorious and so full of interest.

Pleasure in so doing, however, is tempered largely with anxiety, lest from personal shortcomings, I should fail to do justice to so great a subject, and that, as a consequence, these lectures should be barren of good results upon your artistic progress.

In these days of copious writing, and unlimited talk on art and every other subject, the question must doubtless often occur to others, besides the students of the Royal Academy, "What is the use of lectures?" Not much, certainly, if the idea is that they will make artists. It was but lately that a well-known art-writer declined to give an isolated lecture, on the ground that no solid advantage could be conferred by it, and that by such lectures a mere superficial show of interest is often fostered, leading to shallow presumption and self-deceit.

Lectures to students, however, stand on a different footing. They are based on the assumption that study goes with them hand-in-hand, and that they are attended not as a mere dry form of mechanical duty, but with a *bonâ fide* desire of progress in that noble art to which, if he wish to succeed, the art-student must devote all his energy, powers, and industry. Where this is the case, he may find lectures of use as an aid and encouragement to studies pursued elsewhere, although taken in themselves, they can do little for him.

Lectures cannot, as I have said, make artists; for this purpose genius is required—the divine and incommunicable quality which is the gift of that Supreme Authority whence spring all good things. True genius will often disdain adventitious aid, but let no one delude himself by thinking that neglect of such assistance will bring him genius.

I dare say many excellent persons are somewhat perplexed at the utterances they read now and then on the subject of architecture—utterances distinguished by the utmost confidence, but unfortunately also by every species of discord; and it may perhaps occur to some of us that rash and hasty judgments would be less common, if the critic were aware that he could not venture to rely on the indifference or want of knowledge of his readers.

One of our first statesmen has recently told us that in England too little is thought of art, and that our countrymen would be the better for giving a freer scope to artistic influences. I think none can doubt the truth and wisdom of this opinion, an opinion which may possibly have been created, or strengthened by the official experience of its distinguished author.

To spread appreciation of art is the true way to encourage its progress, and in this will, I think, be found to reside the hope of architecture.

I sincerely trust that in the Royal Academy the art of architecture will never be thought a matter of indifference by those of you who are votaries of painting and sculpture, and, *vice versâ*, I hope our architectural students will gladly learn the lessons which you can teach them of the beauties of colour and form.

If therefore, discourses on art from this place can in any way strengthen the bonds of union among artists, and so nourish a spirit of mutual appreciation of each other's art, they may not have been given in vain.

To appreciate is to estimate, to value. This requires knowledge. No one can make an estimate while ignorant of the various circumstances which, taken together, affect the value of any article. You do not expect a teetotaller to be a connoisseur of wines, or a Hindoo to be a judge of skating.

I have on former occasions pointed out to you the complexity of our art, and the variety of the influences that have affected it at different times. It will therefore be apparent how difficult it must be fairly to appreciate its present position and prospects, however easy it may be to rush in, with a *cœur léger*, to announce crude ideas and startling theories.

Let us briefly examine this evening one of these theories, to which I referred, in passing, in one of my former lectures.

We are sometimes told that our art is in a state of decadence, and our architects inferior to their predecessors. Some of our grandest old buildings are pointed at, and we are asked to name any worthy modern competitors. Everything that is now done is said to be based on unsound principles, and therefore worthless, and our whole system is wrong. The architect is no longer to be the ruling mind of the work, and his place is to be taken by the master-workman, one of whose most conspicuous merits is to be, that he is not to work from drawings.

In expressing my dissent from the above doctrines, I have no desire to express perfect satisfaction at our present position. Those of you who may remember portions of my introductory lectures last year, will not need to be reminded of the anxieties I then expressed on this subject.

But before we embark in revolution, we may fairly ask who are to be our leaders, and what are the prospects of success. I may have a word or two to say on these points by-and-by.

In the mean time, it may be remarked, by way of consolation, that in no time or country have prophets of evil ever been wanting, and that in our own day every institution becomes in turn the theme of dismal vaticinations; so that if our architecture is not made an exception to this rule, we may at least find some comfort in being in good company.

If we receive without hesitation all the doctrines referred to, we shall have to confess to an almost universal deterioration. Art is dead, religion a form, public virtue extinct, the England of to-day a feeble remnant of departed greatness. I must decline to accept such pessimist conclusions, and prefer to inquire whether they are not as baseless in regard to our art, as I feel them to be in their general application.

Is our art, then, in a state of decadence? I doubt it much, in the face of the great revival which we of this generation have seen. I doubt it more when I look round on the works of the rising architects of the day. Putting out of the question those of us who have already achieved a reputation, whether of good or ill report, I can fearlessly assert, from my knowledge of the younger generation of architects, that there has never been a time in my recollection when they were more fully actuated by artistic aspirations, and thorough devotion to their noble calling.

To acknowledge the truth of this conclusion may be inconvenient to those who have too hastily committed themselves to the doctrine that "all is vanity"; but I am convinced that it will be recognised by calm and unprejudiced inquirers. We have been passing through a period of transition, a transition perhaps still incomplete; but the evidence around us on all sides is, I think, conclusive that our architects will be able to carry out satisfactorily any works that may be entrusted to them, and that when opportunities are offered, they will perform their task with at least as much ability as the members of other professions display in their several callings.

And here let me add a word as to the opportunities open to architects. This leads me directly to that question of public appreciation to which I have already referred. If the community is so apathetic or careless as to have no opinion on what is good or bad in architecture, it is not reasonable to charge upon architects the responsibility of the inevitable result.

We sometimes read in the public press advice on the construction of our houses, with vehement condemnation of architects on grounds for which they are far less responsible than the editor with his almost unlimited power of influence. Not one in a hundred of the habitations of this metropolis has had the advantages of architectural supervision, and the hundredth has probably been fettered in a variety of ways, such as local necessities, costs, or tenure of site.

The same thing may be said with reference to much that is at the present moment going on around us to the disfigurement of our thoroughfares and the vitiation of good taste. Far be it from me to deprecate criticism of such buildings, however severe it may be; but I would gladly see the responsibility for them fixed in the proper quarter.

If our public works are but too often feebly conceived, and imperfectly carried out, it should be remembered that architects are not responsible for public policy. Only the other day your late Professor of Architecture, from his chair as President of the Institute of Architects, felt it necessary to speak a few words of grave and pregnant warning on the unwisdom of a petty economy applied to a great public work now in progress. Such warnings would not be necessary if we found among our rulers, and in society the spirit of appreciation of art on which I am now insisting. Such a spirit would encourage and direct architects, and would be a source of advantage to the public.

But we are told that modern architecture fails to interest us when we compare it with the monuments of antiquity. No one has ever excelled the Parthenon, nor have our old cathedrals any modern rivals. Doubtless if this is true there is cause for serious reflection. If deficiencies exist, are they inherent, or derived from removable causes? May it not be that we shall have to take into account a great variety of circumstances before we can form a sound opinion on this point? Social and religious customs [in many cases become obsolete] must have their place in any review of the architectural past.

If it be a fact that ancient architecture is more interesting than modern work, it does not necessarily follow that it is the modern architect who is in fault. Take, for example, a great cathedral. It is probably a monument of the art of a long period, perhaps of several centuries. A great abbot began the crypt, a famous bishop completed the nave, a later chapter added the cloisters, and perhaps pulled down some of the former work to rebuild it in the fashion of the day.

Here we have a labour of love, pursued without regard to time or cost. If any member of the religious body interested had a special gift, we may be sure it was gladly offered for the service of the sanctuary. If any exceptional work of difficult elaboration was required, it would be delayed until the right man appeared to do it. There was no hurry, no insistance on cheapness before everything, no determination to cut down the plan to the barest requirements of necessity.

You will see at once how differently modern works are conducted, but it is not the architect alone who must bear the responsibility. He has to work under conditions imposed from without, and must do his best, in the circumstances in which he finds himself.

Before therefore we compare a modern building with an ancient monument, we must consider all the facts; we must not expect to find the same interest in a work of five years as in one of five hundred. We must not look for the charms of antiquity in a thing of yesterday. The archæological and antiquarian side of architecture is so fascinating, that a taste for it lends itself only too readily to a depreciation of the every-day work going on around us, and its exaggeration is therefore to be guarded against. I fancy many of our old favourites would fail to delight us, if we could see them clean and new, with their mouldings and carvings fresh from the workman's chisel.

To weigh well these considerations is the task of appreciation in art, and without it, a fair comparison of architecture of different ages would seem to be impossible.

But we are told that all modern work is unsound in principle, and therefore worthless. Is this so? It is not very easy to define what are sound principles, except in the sense of their being the principles of the writer who uses the words. It reminds one of the saying that orthodoxy is my "doxy," and heterodoxy is other people's "doxy." Mr. Fergusson in his "History of Architecture," appears to regard the Reformation as the turning-point of modern architecture, for he says:—"It is perhaps not too much to say, that no perfectly truthful architectural building has been erected in Europe since the Reformation." And he proceeds to visit with impartial condemnation St. Peter's and St. Paul's, as well as what he calls our more recent "Gothic fashions."

What, then, are we to consider sound principles? If we are to neglect the teaching of antiquity in the search for a new style, unlike anything that has been seen before, we shall be seeking that which no age or country has ever found, and shall doom ourselves to inevitable disappointment. If novelty is to be the great desideratum we must at once cede the palm to the civil engineers, who have given us structures the like of which were assuredly never seen before.

The truth is that perfection, rather than novelty, should be the aim of the architect, and the search for perfection must be based on a knowledge of the past.

Take for example the Parthenon, perhaps the most famous building in the world for perfection of finish, and refinement of sculpture,

* Delivered February 22nd.

curvatures, and mouldings. A recent critic says, truly enough, that for three centuries there had been a gradual and moderate improvement in the architecture of Greek temples. But the Greek temple is, as you may see for yourselves, one of the simplest of architectural designs. When once the general principle of the plan was fixed, in accordance with religious prescription, there was little or no room for architectural novelty, save in the details of capitals, columns, mouldings, and sculpture.

The Greeks, therefore, the most fastidious of critics, were content that there should be only a gradual and moderate improvement in architecture, spread over several centuries, although in other things we know they were eager for novelty, at least in their later days, when, as St. Paul tells us, they were ever inquiring for "some new thing."

We must remember that things may be new without being true, and original only in unprecedented ugliness.

The Mediæval architects seem to have had little dread of what we should call copying, their piers, mouldings, and details generally, and even their plans, being often similar to each other, during the several great periods of Mediæval architecture. Does this deprive their works of interest? I think not; there is always enough of local colour or peculiarity to prevent sameness, and to please the spectator. You need not, therefore, fear the reproach of "unsound principles" if you base your practice on the achievements of the past, provided you bring intelligence to your developments of them.

Whether you think that the art of Greece or the art of the Middle Ages is the purest and best, you will find that the road to success is through the study of beauty, simplicity, and a truthful freedom from affectation, and that those principles faithfully applied will lead to any novelty of treatment for which the circumstances of each case may naturally call. If you will bear this in mind, with a resolution ever to do your best, it will not, I think, be easy hereafter to argue that all modern work is worthless because constructed on unsound principles.

It is of little use, however, to dwell upon principles as the road to success, if we are wrong at starting, and there are those who tell us that this is the case.

An architect, according to these critics, is a mischievous surplusage, if not an impostor, and the first thing for us to do is to abolish architects. This will seem to many as promising a scheme as a suggestion to reconstruct the army by removing its officers. You will find the proposal, however, set forth in all its fulness in the pages of one of our principal reviews.

The argument first assumes that all modern work is bad, and then seeks to trace the cause to the existence of architects. Master-workmen, it contends, were ever the leaders in the arts, and the way to insure success now is to revert to the old system, and employ, not architects, but workmen, on our great works of architecture.

It is not quite clear how harmony is to be secured among the workmen, for I suppose each master-workman is only to understand his own trade, and is not to be "Jack-of-all-trades, and master of none"; but this would probably be thought a trifling difficulty in the way of a revolution, which we are told is the "only path" that leads to excellence in art, because in the master-workman we are to recognise the only real "hope of English architecture."

If we ask who and what is the master-workman, we are told that, in the language of Plato, "The master-workman does not work himself, but is the ruler of workmen"; that he was a simple workman in his origin, and probably by family descent; and that his duties were to "make the plan, arrange the elevations, and be, in fact, the foreman of the work."

It is argued from this definition of his duties, that he must always have been on the works, and it is affirmed, on authority which is far from clear, that Ictinus thus built the Parthenon. We are further asked to imagine a dozen architects employed in this way on the foundations of the New Law Courts [and I suppose any number of dozens more on the superstructure], in order that we may recognise the difference between the good old way and the degenerate customs of modern times.

That architects should be draughtsmen is denied. Callicrates and Ictinus, we are told, were architects of the Parthenon; but they worked under the orders of Phidias, who was appointed by Pericles director and overseer over all. It is contended that Phidias was only "a carver," although the "noblest of the workmen"; but how this is to be proved it is difficult to say, as it is also to recognise in the above description of his duties any great variation from those of an architect-in-chief at the present day.

We know how delicate are the curves and other refinements of the best Greek art, and we are asked to believe that these, as well as the beautiful details of Gothic churches are "the direct expression of the working men of various grades, but always present at the building."

It will be evident to you, that if this theory of the master-workman be good for anything, it must be made to apply to later works than the Greek temples, and we accordingly find it asserted that whether in Romanesque, Lombard, Byzantine, or Mediæval works, whatever is good, is due to the master-workman, whose thoughts were manifested as they arose, and whose "changes of detail or of plan were prompt, open, and decided"; by which we must conclude that it was a merit in the master-workman that he had no clear idea at the outset of what the work would be on its completion, and that he did not sit down and count the cost before he began to build.

It is curious to note that the propounder of this theory is so much in love with it, that he relates with satisfaction that Ædnothus, one of his model master-workmen, built a church-tower in the Isle of Ramsay, in Huntingdonshire, which, before it was finished, began to crack. It might at first sight be thought that this was not a very pleasant state of things; but it presents no difficulty to our author, who evidently considers it in some way a support to his argument.

He tells us "the labourers approached the towers by the roof; and going stoutly to work, razed it to the very ground, dug out the treacherous earth, made the foundation sure, and again 'rejoiced to see the daily progress of the work.'" Delighted with this result, he exclaims, "What a contrast, all this to our present condition and practice!"

If we ask what there was to cause this joyful exclamation, we are told that the nobleman who paid for the work was noted for "the sanctity of his deportment," that the Bishop "could make a plan," and that the builders were "twelve brethren in one village, who had cast behind their backs the lusts of the flesh, and were warmed with divine love."

Nevertheless, I should not advise any young architects of the present day to rely upon such reasons to justify him in building a tower of unsound construction, or to think that when it falls, his employers will delight in the daily progress of the work of rebuilding.

In the story quoted we are told this was the case. Indeed, the narrator seems so pleased with this pulling down, and building up again, that we almost expect to hear of a further catastrophe; and consequent increased delight with the progress of the third tower. He concludes his account by declaring that his retrospective view confirms the holy Oswald's prescient declaration, "Verily, this is another Eden, preordained for men destined for the highest heaven."

I have given you this story as much as possible in the words of the writer, as I do not wish to weaken them, but time would fail me to follow him into all his illustrations of his supposed universal theory.

If we ask how it came to pass that trouble entered into this architectural Eden, the answer given to us is that in Italy, five centuries ago, a draughtsman was employed to make designs for a "foolish work," and then began the "decadence of architecture." Who was this draughtsman? No other than Giotto. What was this "foolish work?" You will perhaps be surprised to hear it was the Campanile at Florence, a building which has been the admiration of ages for its architectural beauty. Many of you have probably seen this tower; all of you, I hope, will do so; and though there must of course be differences of opinion as to its merit, I venture to think that you will require a very high scale of excellence in the works approved by a critic, before you consent to submit yourselves to his judgment in condemnation of this architectural glory of fair Florence.

It is true that its censor is gracious enough to admit that it is saved from absolute debasement by the carving of Andrea Pisano, Lucca della Robbia, and Donatello; but this does not prevent the whole work from being "a folly," "without artistic growth," "a thorough modern work," "without life, or art relationship, or any influence in architectural development and history." Here, again, I use our author's words, that there may be no mistake as to his meaning.

Giotto's unpardonable sin was then, it seems, that he agreed to be the draughtsman, or, as we should say, the architect of a tower which the Florentines had determined should "exceed in magnificence, height, and excellence of workmanship, whatever of the kind had been achieved by Greeks and Romans." "Like Phidias, as the greatest of the workmen, he directed all, and was overseer of all; and yet the building had great artists of the works." A great error, truly, in the eyes of the critic, who condemns him so mercilessly for breaking into the paradise before pictured of the master workmen, men destined for the highest heaven!

After this severe condemnation, however, we are a little surprised to read in the next paragraph, "But Giotto was a real 'master-workman,' and himself assisted in the sculptured decoration of the tower." Can it be, therefore, that his crowning error was that the tower stood, and if he had let it down as Ædnothus did his work, and had called in the Florentines to rejoice with him on the daily progress of putting it up again, he might have been more leniently dealt with? As, however, he was undoubtedly guilty of making drawings, I fear he could never have ranked with the "twelve brethren warmed with divine love," but he might surely have claimed to be praised with the bishop for his ability to "make a plan."

Michelangelo, we all know, was architect, painter, and sculptor, the latter art being his favourite. He consequently fares little better with our critic than Giotto. His supremely noble work in the Sistine Chapel is, we are told, spoiled by having been designed in a technically unskilful way, so that his pictures are surrounded by a barbarous medley of Renaissance forms, a half-pretence of solid architecture, absurd in principle, and clumsy in effect.

Raffaelle, we find, was ignorant "of the sense and scope of decorative art," and from St. Peter's to the latest building of "New Rome," Italian architecture is but "a dreary evidence of luxury, a record of expenditure and folly."

But is Italian architecture alone to be denounced? By no means. It appears that some sixty years ago an ancient vellum drawing of Cologne Cathedral was discovered. I should not propose to you Cologne Cathedral as a perfect illustration of Mediæval art, but our author does not think it necessary to say a word of its merits or demerits. He at once denounces it wholesale, in consequence, apparently, of the existence of this parchment, which, he says, accounts at once for the faults of the building.

To some of us this discovery of an ancient drawing may not seem to agree exactly with his general theory of the master-workmen who worked with "thoughts manifested as they arose," free from all guidance from draughtsmen. It at least raises a strong presumption that Cologne was not an exceptional case, and that "ancient vellum drawings" may have been prepared for other similar architectural monuments. However this may be, our author decides that Cologne Cathedral is a "gigantic folly, and a total waste, unless it prove a warning."

Having thus cleared the ground, we are referred to some specimens of master-workmen's labours in modern times, and are called to declare that as architects have so demonstrably failed in all they have done, the workman is to take their place, and inaugurate a new series of triumphs of all that is true and beautiful in architecture.

I hope I have not wearied you by the above extracts. It has seemed to me desirable to place them before you, as far as possible, in the words of the critic, for it is clear that if his conclusions are to be accepted, they must strike at the root of all our work here, and the Royal Academy may give up its care for the education of architects. Many of you who are familiar with the actual practice of architects nowadays have probably already formed an opinion on our author's proposals for the future, on which I now wish to offer a few remarks.

And first let me direct your attention to the name "master-workman." What does this mean? Apparently the chief of a trade, for Phidias is called a master-carver, and Giotto is admitted to have been a master-workman as regards his sculpture. The system pressed upon us would therefore amount to this, that for our great modern buildings requiring a variety of trades, a variety of chiefs must be

engaged,—one at least for each trade, and, indeed, for some trades several, if, for example, we adopt the suggestion of a dozen such chiefs working on the foundations of the New Law Courts.

But this body of chiefs must, we should think, have some superior, if only to define the application of their respective trades.

Is a roof to be handed over to the master-mason for a stone vault, or to the master-carpenter? Is a screen to be of wood, iron, or masonry? Who is to be responsible for the safety and propriety of the thoughts which are to arise, and render necessary sudden changes of detail or plan? or who is to see that all trades so work together, that cracked towers are not to be too common? Clearly there must be some one to do all this, to say nothing of other duties now falling to the architect. Oh! but some will say, there is to be no architect. Be it so, and we will call him a master-workman, which only brings us back to the conclusion that there must be some supreme authority over architectural works, whether we call him architect, surveyor, master-workman, or anything else.

This is, in fact, what is meant by the Greek word *ἀρχιτέκτων*, with its derivation from *αρχη*, the beginning, origin, or cause, and *τευχω*, to contrive.

No one feels more strongly than I do the desirability of raising in every feasible way the artistic status of the workman. There can be no doubt that much of the charm of old buildings may be traced to the harmonious working of many minds in its details, but this is no argument against a general design and supervision of the whole by some one, who, whether he be called architect or by any other name, is to secure harmony both of plan and execution, in a great and complicated work.

We shall require an amount of proof which has not as yet been forthcoming, before we can admit this theory of the master-workman in times past; and even if it were proved to have been the ancient rule, much would need to be considered before we could conclude that we must necessarily take a step backwards, and adapt our customs to those of past centuries.

It is of little use for critics like our author to rail at the refinements and luxuries of modern days, and declare that "greed" is the curse of modern England. All this may be very true, and well worthy of our attention as moralists, but such declamation helps us but little in our study of architecture. With every desire to uphold the dignity of a noble profession, too much responsibility must not be laid by us upon it. It is not the province of architects to reform the world, but to bear their share honourably in its daily work and progress.

You, gentlemen, who are to be the architects of the future, are in little danger of being permitted to forget that your lot is cast in the nineteenth century, and that you must please in order to live.

Let us assume, for a moment, that all this argument about the master-workman of old is proved, what does it amount to? Surely to this, that in the course of time the plan was found inconvenient, and has been laid aside for good and sufficient reasons. When we are called on to surrender present habits, and to retrace our steps, the burden of proof clearly lies on those who demand what on the face of it appears unreasonable.

Consider for a moment the complexity of modern buildings, with their almost infinite requirements of construction. Can we reasonably compare them with the simpler structures of antiquity? If we are to be told that this is but a proof of our decadence, and that we should return to simpler habits, I reply, in the first place, that this is a moral rather than an architectural question; and secondly, that it rests with the objectors to prove their case.

It does not follow, as some would seem to think, that every departure from ancient custom is necessarily a step astray. I was lately in a modern Gothic country-house, in which the absence of dressing-rooms was explained by the dictum of the architect, that dressing-rooms were never used in Mediæval times,—a principle which might be pressed much further than he perhaps realised.

New wants and habits will, of course, arise as the world grows older, just as surely as the habits of an adult will vary from those of a child.

The simplicity of plan of the Greek temple is patent to all. The atrium and cella on one floor only, enclosed by windowless walls, themselves surrounded by unbroken ranges of columns of uniform design, called for no complication of design. The Parthenon may, in fact, be looked upon chiefly as a frame for sculpture, and in such a case the chief responsibility would properly fall upon the sculptor.

In a modern work this is reversed. We are told to picture to ourselves a dozen architects at work on the foundations of the Law Courts, because it is assumed that with a chief or two Ictinus built the Parthenon, and because four master workmen were engaged on the foundations of the Temple of the Olympian Jove at Athens. Surely this argument can scarcely be serious. Think for a moment of the actual realities in the case of the new Law Courts, or any great modern building. I have not seen the plan as now finally arranged, but I am able to direct your attention for a moment to one of the plans prepared in competition, which will serve, as well as another, to give you some idea of the difference of complexity between such a building, and the temples of ancient Greece.

Nor is such complication an exceptional or isolated circumstance. There can be no doubt that what we call civilisation tends to complication. We see proofs of this all around us. It is a matter of common observation, for example, that the cost of Government increases daily, and this is because the wants of modern society are daily growing, and demand of its rulers an increase of public work, both as regards quantity and quality.

Modern science also is daily teaching us subtleties of fact and suggestion which do not always agree with the simpler rough-and-ready theories formerly adopted.

In ancient Britain, as now in countries which have preserved their primitive customs, the rain from heaven, and water from the spring or well, sufficed for man's requirements of water supply. With us this is a problem taxing our skill and knowledge to the utmost, and unfortunately far from having been solved.

The same may be said of ventilation. Our ancestors may have been contented with their cheerless halls, with a hole in the roof for a chimney, or a huge cavernous fireplace, roasting those who were near to it, and leaving the rest unwarmed and uncomforted. The floor of rushes, foul with moisture and dirt, the draught-admitting doors and windows, may also be among the customs of the "Good old times," so many affect to deplore, but they are not likely to return.

Some people may tell us that hardiness and rude health may have been promoted by such rough habits of life, but if so, it must have been at the cost of infinite suffering to the weak and delicate. We cannot suppose that our ancestors differed greatly from ourselves in physical constitution, so that we may fairly conclude that thousands fainted on the way, which led only to "the survival of the fittest."

Do you think, however, that this is the way in which the world will again consent to walk, even if invited to it by the siren voices of architectural critics? And if you do not think so, what becomes of their denunciations of the complexity of modern requirements?

It may perhaps have struck you by this time, that our reformers have undertaken what President Lincoln called "a big job," in their proposals to revolutionise the practice of English architecture. Not only are architects to be abolished, but the whole course of modern life is to be changed, and as our critic says, "Of course the trash that fills the Bond-street shops would disappear." Not a very simple programme this! nor one to be solved by a stroke of a pen; but there is more behind, as we shall see when we examine the description given to us of the working men who are to be the salvation of our architecture.

I said before, that when we are invited to join a revolution, we may ask ourselves who are to be our leaders, and what are the chances of success. Let us see what our author has to reassure us on these points.

He is quite certain that architects are the cause of all our troubles. They actually make designs as Giotto did; they are the acme of imaginative incapacity, and in this censure he includes, as we have seen, Giotto, Michel-angelo, and Raffaelle. Let us see what he has to tell us of the men on whom the world, tired of such pigmies, is for the future to rely.

We shall be a little startled at the outset, to find that the first preliminary is a general improvement of the morals of the working-man, and while we are pondering how this truly great object is to be effected, we shall be perplexed to be told that "the change must be made not in the upper, but in the lower orders of society," because "morals do not descend."

So that in addition to the rather extensive programme already announced, we are now committed to a general reform of morals, before there can be any hope for English architecture. In the meantime, what do we read of the present state of things in the class from which the master-workmen are to spring? This is the description which our author wishes us to accept.

"Our present working classes are profoundly vulgar. The increase of wages and of general comfort does not much improve them, and instruction only serves to give them larger means to demonstrate their coarseness. Those who know them in their houses tell us that as their wages, rise they revel in expensive luxury and display."

Most clients would think this a not altogether satisfactory presentation of their case by a self-chosen advocate, even if he admits, as he does here, that "In this they imitate their betters."

But some of us will ask, How about education? We have been told we must "educate our masters." Will this do nothing for them? Nothing, according to our author, as long as we follow our present methods, which only tend to the debasement of the imagination. For the latter learning is no efficient substitute or supplement; as without imagination "every man is brutish in his knowledge."

In much of this I concur. Education is not a nostrum capable of itself of raising a nation,—if we mean by education a system of instruction alone. We cannot safely neglect the imaginative and emotional part of man's nature, and it is this conviction which has led to a general consensus of opinion, in this country at least, that religious teaching must form part of anything that deserves the name of education, however we may differ amongst ourselves as to the wisest mode of regulating such teaching.

But the admission into our scheme of culture and of the development of the imaginative faculties leaves us still a long way from the goal to which our author seeks to attain. If our workmen need this development, are they alone in their requirements? Moreover, are we justified in giving such an unqualified description of their present state as that on which their advocate has ventured? I think not.

In all large classes there must, of course, be wrong-doers; and it is the characteristic of some minds to dwell on the exceptions, rather than on the general rule.

Our writer might have been expected to test his theory by personal observation before indulging in a sweeping denunciation of millions. He speaks, however, of working-men avowedly on the testimony of others who, he says, know them. This imparts to his scheme an air of its having been evolved out of his own consciousness. But is his picture true? I cannot admit it.

I decline altogether to draw up an indictment against whole classes; for they are classes, and it is foolish and misleading to speak of working men as if they formed one great class apart from the rest of their countrymen. They have their own various grades and customs, and (apart from the influences of trade-unions) are as independent of each other, and as little ready to be dictated to, as any of us.

If the description quoted were true of the majority to whom it refers, we may see how great a danger would threaten the State, a danger in which all anxiety for art might well become merged.

While, however, we cannot assent to our author's description of his clients, he is bound to admit it as against himself, and we may well ask how does it tell in favour of his proposals? Are we to change everything into an architectural chaos, in the hope that from its ruins our workmen will gain refinement and cease to be "vulgar"? If his description of the class be true, or anything like true, what encouragement does he himself give us to place ourselves in his hands?

Much as we may all value, and rightly value, the improvement of the workman, it is too much to expect that our works of architecture should be devised with no other object than his elevation. Our art must aim at utility, as well as beauty, and its works should be devised for the convenience and pleasure of society at large, and not for any partial object, even if that object should be the improvement of morals in the working class.

Moreover, it remains to be proved that the attainment of this object would render necessary the adoption of any revolutionary theory.

Let us suppose, *pace* our critic, that our architects survive the storm he would raise, is there no room, in the present system, for that elevation of the status of the working-man on which he dwells so emphatically? I think that those of us who have had to deal practically with the difficulties of work will smile at this question. Unquestionably there is abundant scope in the every-day practice of our art for the skill and taste of the individual workman. Nay, this scope is enlarging itself from day to day, and deserves all our encouragement.

It is too much to expect that every name among a numerous class should receive recognition; but in all exceptional cases of merit, the name of the workman should be duly honoured. There can be little difficulty in this, in an age when special skill of any description is the surest road to fortune.

In the meantime, we must demur, on our author's own statements, to his conclusion that there should be a sweeping transfer of power from architects to master-workmen. It has long ceased to be held as an argument against our modern commercial policy, that we ought to produce everything for ourselves, and be thus independent of our neighbours. It is, in a similar way, too late to ignore that division of labour which we are compelled to recognise in modern times, and of which our system of professional architects is but one of the most natural results.

Before concluding, there is one other point on which I must dwell for a few moments. We have considered the steps to be taken in our reformed practice, and must now inquire of our counsellor what are our chances of success if we place ourselves at his discretion. Drifting on the ocean of change, who is directing our course, and to what port is he steering?

We have seen how fastidious is our leader. Giotto having dared to make "a fine design for foolish work," is not to be accepted as anything but a warning. Michelangelo fares no better, and his Farnese Palace is described as at best "a majestic misery, cheerless as a prison, and incapable of human sympathy or popular delight." Of Raffaelle we are told that his architectural painting in the Loggia ceilings of the Vatican shows "how little he had discovered of the sense and scope of decorative art." We remember how Cologne Cathedral has been dealt with, as containing "nothing lovely or of interest,"—"a folly and a waste." Of William of Wykeham we read that his work at Winchester is "a desperate collapse of art," and that "he touched nothing that he did not deface."

After this somewhat wholesale shattering of architectural idols, it will be a relief to some of us to find that there is at least one modern work in this metropolis, which we may venture to admire, as the latest instance of "true building master-workmanship." No intrusive architect has ventured on a suggestion, but the whole of the design, as well as the labour, has, we are told, been contributed by the working-men themselves, many of them "working till twelve o'clock at night."

From a natural anxiety to discover what under the guidance of our new leader was to be the architecture of the future, I hastened to see the result of his theory, against which Giotto and the rest so greatly erred, and I am therefore now able to lay before you an elevation of the building for your inspection. It is situated at 93, Regent-street, Westminster, not far from the Penitentiary, and is called the Portcullis Club. It is executed in stucco.

I am not about to transgress the necessary rule of the Royal Academy which forbids criticism of the works of living artists; but as I have placed before you with impartiality the denunciations of our critic, it seems fair that you should have an opportunity of seeing for yourselves what he is content to accept. Let me counsel you to go and see the original for yourselves.

A very few words in conclusion. I have now asked you to examine a theory of reform which appears to be wholly impractical, but I do not wish to be misunderstood. I do not for a moment intend to say that there is no room for reform in the practice of our art. I look for this (just as we must look for any general social improvement) to the gradual diffusion of taste, knowledge, and refinement. We all know how in modern times the manners of the upper classes have been changed, and softened by the silent action of imperceptible causes.

When the public understands and demands good architecture, it will be a hopeful thing for our profession. At present, those who know well, from their general experience, that to choose a bad doctor or a bad lawyer is one of the most costly follies in which they can indulge, too often seem to think that architecture is a thing so simple, and easy, that any one may be trusted with it.

Great works are usually put to competition, too often with very unsatisfactory results. Not to speak of the difficulty, which would almost seem to be insuperable, of securing candour and fair play, why should it be thought an inalienable privilege appertaining to those who have the conduct of public works that they should have the right to invite the architectural profession to a scramble, whenever any important building is to be erected?

Who would think of expecting the heads of the legal or medical profession to devote months of their precious time to his case, on the chance that one in a hundred might possibly be honoured by a commission? Is it reasonable to complain if architectural competitions so often result in failure? Their direct tendency is to encourage showy pretentions which deserve to fail, while they must degrade any profession which tolerates them, until they render it less and less able to attract learned and sensible men to recruit its ranks.

If people will continue to delude themselves by the belief that by competition they can obtain designs for nothing, they deserve little commiseration if it should turn out that the designs so procured should be worth exactly what has been given for them.

Whatever steps are from time to time taken by the Royal Academy or by our professional societies to improve the education of architects, steps which deserve our best support, all must be futile as long as excellence and knowledge give no guarantee of success, when opposed to the meretricious deceptions of an architectural lottery.

I am not concerned to deny that the writer to whom I have alluded may have done good service by his strictures, and I feel sure that few architects who are accustomed only to undertake such work as they are able personally to direct, will doubt the advantage of a more intimate connexion between themselves, and the master-workmen. They may, however, differ from the writer as to his practical conclusions, just as we may enjoy roast pork without thinking it necessary to set fire to the house, in order to cook the pig.

The master-workman has no better friend than the architect, none who desires more ardently his elevation and artistic progress. We must however decline to enter upon a course of architectural revolution, on the speculation that when all our established customs have taken flight, there may perchance remain at the bottom of the casket "Hope," as applied to English architecture.*

THE CITY LAND AND BUILDINGS PROJECT.

THE comprehensive project now before Parliament for enabling a company to purchase large quantities of land and several buildings for the purpose of constructing an underground railway station and subways, and also for the erection of a number of new buildings, has caused a considerable amount of alarm amongst tradesmen and others residing in the neighbourhood of the property which will be affected, and last week a meeting was held at the City Terminus Hotel for the purpose of organising an opposition to the Bill when it comes before the Parliamentary Committee. It was urged against the project that a clause in the Bill confers compulsory powers on the promoters for seven years, and that in all probability during this period everybody would be left in the greatest uncertainty as to what was going to be done. The project was to raise a capital of 500,000*l.*, with borrowing powers to the extent of 100,000*l.* or 200,000*l.*, whereas at least 5,000,000*l.* would be required to purchase the property over which they sought to have powers. There was no doubt that the gentlemen who were promoting the Bill were respectable, although the speakers knew nothing of them. It was said that an Englishman's house was supposed to be his castle, but if the Bill under consideration passed, there would be an end of any such maxim. A surveyor of eminence had given his valuation of the property affected by the Bill as 4,532,800*l.*, reckoned on an area of a little over five acres, at 25*l.* per foot, and in addition to this the promoters of the Bill asked to have purchasing powers over the adjoining twenty-nine acres, if they thought fit. The fact probably was that the very existence of their powers would depreciate property, and they could then buy it to speculate with. It was added that there was nothing whatever to show that the Bill was not merely for the purpose of financial speculation with the land in question. It was also stated that the Bill had already passed the examiner of standing orders, and would next have to go before the standing order committee to have the preamble proved. A Committee was formed for the purpose of petitioning against the Bill, and it was also agreed to ask the members for the City to oppose the Bill when it came before the House.

Mr. Haywood, in his report to the finance and improvement committee of the Commissioners of Sewers, on the several projects affecting the City, states that the Bill seeks for powers to acquire the whole of the property on the eastern side of Walbrook, and the tower and porch of the church of St. Stephen, Walbrook. The Bill also contains a clause enabling the company to stop up Walbrook, Budge-row, Tower Royal, Size-lane, Bond-court, Barge-yard, Oxford-court, and Walbrook-buildings; and portions of Cannon-street, Queen-street, and Queen Victoria-street. He also states that the promoters have informed him that they propose making Walbrook and Bucklersbury throughout 60 ft. wide, and to form a footway 20 ft. wide, leading from Cannon-street into Queen Victoria-street; also to make subways beneath the Poultry and Mansion House-street from the Royal Exchange, connecting them with the intended new railway station included in the promoters' plans, provided suitable contributions towards such improvements are made by the Corporation, the Commissioners of Sewers, and the Metropolitan Board of Works.

THE ARTIZANS' DWELLINGS BILL AND THE NORTH OF ENGLAND.

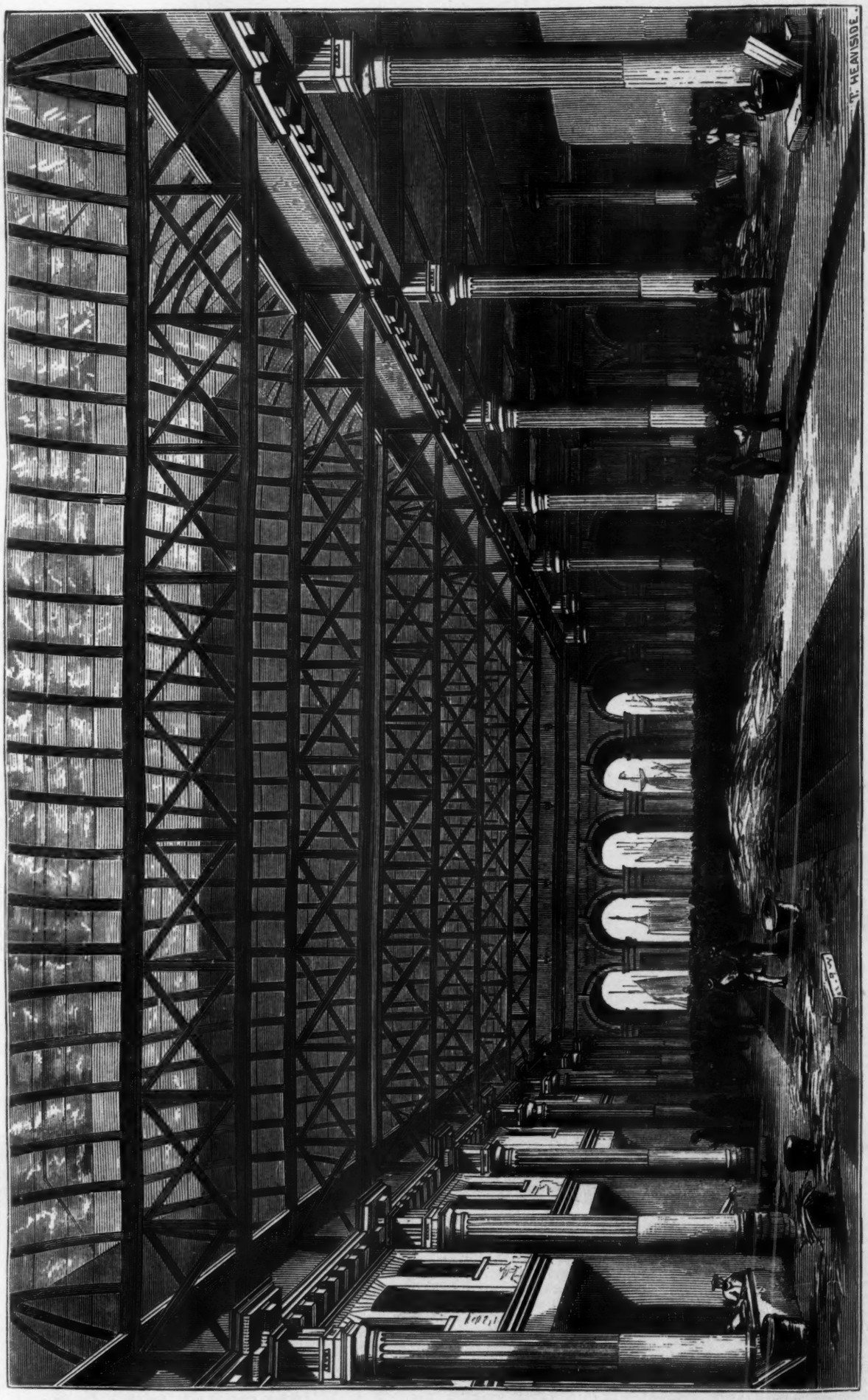
MR. JOSEPH COWEN, one of the members of Parliament for Newcastle-on-Tyne, has, at the instigation of the miners in the counties of Durham and Northumberland, who have so long suffered from the abominable state of their villages and dwellings, given notice of an amendment to Mr. Cross's Artizans' Dwellings Bill, which amendment proposes to extend the operation of the Bill from large towns to all districts having Urban Sanitary Authorities.

This, if carried, will apply the Act to quarters that have hitherto defied every authority,—to out-of-the-way villages and small towns where over-crowding, filth, and disease are more rife than where the population is 25,000 and over. The proposed clause will place the Home Secretary in the same position as Lord Palmerston, who when manufacturers declared that it was impossible to abolish smoke, and, as they thought, had demonstrated it to the then Home Secretary. "Oh, yes, I know gentlemen," replied his Lordship. "Yes, it is as you say; it cannot be done, and all that; but it *must* be done," and done it was. The Bill requires many modifications.

NEW BILLINGSGATE MARKET.

IN our last volume (pp. 867, 925) we published a plan of the intended Billingsgate Market, now in progress, and a view of the exterior next the river Thames. To these illustrations we now add a view of the interior of the market. The architect is Mr. Horace Jones; the contractors are Messrs. John Mowlem & Co. We may repeat that the total area of the market will be 40,000 ft. superficial. The basement, about 24 ft. in clear height, will be used as a shell-fish market. The market proper will be covered with louvre glass roofs, carried on lattice girders, of 60 ft. span. The height to the ridge will be 43 ft. Above this market will be a gallery, approached by stairs from the staircase-halls at the north and south ends of the building. The columns supporting the roof-girders are of iron, and about 31 ft. in height.

* Since this lecture was written, the subject of it has been discussed at the Royal Institute of British Architects; and, while some of the arguments have been anticipated, I am glad to find that nothing has occurred to weaken their application.—E. M. B.



NEW BILLINGSGATE MARKET, LONDON: INTERIOR VIEW.—Mr. Horace Jones, Architect.

THE GREAT EASTERN RAILWAY COMPANY'S NEW STATION, LIVERPOOL STREET, LONDON.—MR. EDWARD WILSON, ARCHITECT.

THE GREAT EASTERN RAILWAY COMPANY'S NEW STATION, LIVERPOOL STREET.

THE approaching completion of the Great Eastern Company's new main passenger station in Liverpool-street adds another to the several large and extensive structures of this character connected with the different leading railway companies having their chief termini in the metropolis. So far as regards its actual area we believe we are correct in stating that it will be the largest of the metropolitan passenger stations, inasmuch as it covers no less than ten acres in extent, and is 2,000 ft. in length from Liverpool-street to its extreme north-eastern boundary, in the direction of Bishopsgate and Shoreditch. The architectural features of the station buildings themselves are bold and striking, the structure having four lofty frontages uniform, to a great extent, in the Gothic character of their design, in addition to a fifth elevation fronting the interior of the station. The west elevation is 320 ft. in length, the central portion of this frontage, which projects several feet beyond the general face of the elevation, rising to a height of 90 ft. That portion of the frontage at the angle bounded by Liverpool-street also projects to the extent of 18 ft., and is uniform in height with the central part of the elevation. The other portions of the frontage are 67 ft. in height. In addition to the ground-floor the elevation contains four stories. The windows of the second-floor form one of the most striking architectural features. They consist of a range of twenty-four traceried windows, 12 ft. each in height. The fourth floor of the central portion of the frontage, and also that at the Liverpool-street angle, are surmounted by a gable enclosing a range of four segment windows, with a circular window above, and two dormers on each side. A cresting of ornamental ironwork surmounts the high-pitched roof. The east elevation closely resembles that just described, the frontage being the same in length, viz., 320 ft. The general height of the frontage is 67 ft., the central portion, to the width of 80 ft., being carried to a height of 90 ft., with an ornamental iron cresting above the ridge of the roof. The traceried Gothic windows in the second-floor are uniform with those in the west frontage. The Liverpool-street frontage is 70 ft. in width, and 90 ft. in height, and generally uniform with the south angle of the west elevation. There is also a wing at the north angle of the west elevation, running westward. The south elevation of this wing is 72 ft. in length, and 68 ft. in height, terminating with a tower and spire or turret at the extreme west angle, 150 ft. in height to the apex of the vane. The station front of the north wing is 146 ft. in width, and four stories in height in the central portion, all of which is enclosed by the station roof. The materials used in the general face of the several elevations are white Suffolk brick, with a free introduction of Bath stone for dressings and ornamentation.

The interior of the station has its main approaches at the west elevation, in front of which there is a spacious area, descending on an incline, considerably below the Liverpool-street level. There are eight passenger-entrances at this frontage, together with three carriage-entrances, and an exit. The main-line booking-offices are on the ground-floor of the central portion of this part of the building already described. This is the largest and noblest apartment in the entire structure. It is 90 ft. in length by 50 ft. in width and 49 ft. in height, being carried up to the ceiling of the second story, and lighted not only from the ground-floor and first-story windows, but also by the large ornamental Gothic windows of the second story, both in the east and west elevations. The ceiling is in ornamental panels, with white and grey mouldings. A gallery is carried round the apartment, leading to the different offices in the upper portions of the building. On the south side of the booking-offices there are a ladies' waiting-room, 18 ft. by 19 ft., and a large second-class waiting-room, 27 ft. by 31 ft., together with a parcel-office, 33 ft. by 46 ft. On the north side of the booking-offices there is a first-class waiting-room, 36 ft. by 26 ft., together with a waiting-room for ladies, 23 ft. by 20 ft., whilst at the north-east angle there is a spacious refreshment-room, 40 ft. by 28 ft., and 29 ft. in height. Almost immediately adjoining the refreshment-room, on the north side, is an apartment called the suburban waiting-room, specially for the accommodation of this class of passengers. Its dimensions are 31 ft. by 18 ft., and attached to it there is also a ladies' waiting-room, 21 ft. by 12 ft. In close proximity is the suburban exit-passage, 10 ft. in width, and beyond this again are the cloak-room and the general despatch-office. In connexion with the cloak-room there is a lift carried up to the top of the building, one object of which is the convenience of passengers, there being a booking-office for the suburban traffic on the floor above, approached from the higher level, in Liverpool-street. There is a similar lift from the parcel-office, and also from the refreshment-room to the top of the building, all the lifts being worked by hydraulic power. At the south angle of the ground-floor level there is a large area, 97 ft. in length and 85 ft. in width, set apart for the company's horse and carriage traffic. The suburban traffic booking-offices on the first-floor, approached at the Liverpool-street frontage, as already stated, are 60 ft. in length by 34 ft. in width, and in immediate connexion with them there is a ladies' dining-room, 27 ft. by 15 ft., together with a spacious general dining-room, 40 ft. square. These dining-rooms are approached from a gallery.

A number of the general offices for the clerks of the company are also on the first floor. And here it may be stated that the whole of the numerous apartments in the building are intended to be exclusively set apart for the business of the company, the whole of which will be conducted on the new premises. These offices are approached by an entirely distinct entrance from the Liverpool-street level, along a corridor 10 ft. in width, leading to the principal entrance, which is 20 ft. square. The offices on the first floor will be occupied by the clerks in the departments of the secretary, land agent, law officer, and transfer superintendent; and the general station superintendent's office is also on this floor. The second floor, which is much more lofty than the other portions of the building, is exclusively set apart for the offices of the chief representatives of the company, and contains, amongst others, the private offices of the chairman and deputy chairman; also the secretary's and engineer's offices, the general manager's offices, and also committee-rooms, together with the board-room, a large and handsome apartment, 37 ft. by 20 ft. This apartment is ornamentally finished and decorated, and a dado in polished oak is carried round the room, whilst the ceiling is artistically divided into panels. A luncheon-room, 26 ft. by 24 ft., adjoins the board-room. A corridor, 8 ft. in width, runs the entire length of this floor. The floors of all the corridors are laid with Portland cement in concrete, and flagged with York stone. The third floor will be occupied as offices for the clerks and subordinate officers of the company, whilst a portion of the dormer floor will be set apart for the housekeeper's residence and servants, the remaining portion being spare rooms. There are no less than 150 rooms and apartments in the first and other stories of the building.

The station area, which contains double lines of rails and ten platforms, is covered in by a roof, consisting of two bays, 109 ft. span each, with two side roofs 30 ft. span each, and the extreme width of the station is 314 ft. The roof is carried on iron columns, with a double row in the centre, and which, being hollow, also serve to carry the water off. These columns support iron girders, and the roof covering is chiefly of glass, with a lantern light running its entire length for ventilation purposes. The length of the roof over the main line portion of the station is 730 ft., and the length of that over what is called the local department of the traffic, 450 ft., the height of the roof being 76 ft. above the platform level. The several platforms vary in width from 10 ft. to 34 ft. The main line platforms are 1,000 ft. in length, and those for the local traffic are 550 ft. long. The general signal-box is placed about the centre of a network of rails, between Primrose-street and Shoreditch, and it contains 100 levers for the purposes of interlocking and working the signals.

The station buildings are already externally completed, and the internal portion of the work is rapidly proceeding. The roof over the station area is also considerably advanced, as well as the platforms, and it is fully expected that the station will be opened for traffic on the 1st of May next.

Mr. Edward Wilson, the company's engineer, has also acted as architect; and the works are being executed by Messrs. Lucas, Brothers, the ironwork having been supplied by the Fairbairn Engineering Company, of Manchester.

EXHIBITION OF THE ROYAL SCOTTISH ACADEMY.

THIS Exhibition opened to the public on Saturday, the 13th inst. The number of works exhibited is 1,029, and nearly an equal number has been rejected. What sort of works the rejected are we shall have an opportunity of judging, as a supplementary exhibition is to be opened in a saloon in Castle-street, where the majority of them may be seen and judged of. "To err is human," and it is possible that one or two works of merit may have been overlooked; but if we consider that at least a fourth of the works in the rooms are below mediocrity, we may reasonably conclude that the discontent amongst the authors of the rejected works arises from the fact that men are not impartial judges of their own performances.

This year the works by resident artists are, as a whole, very disappointing; and if the pictures which have been already exhibited at the Royal Academy were abstracted from the collection its attractiveness would be almost entirely gone. Amongst these are examples of Alma Tadema, John Pettie, Peter Graham, Sir John Gilbert, Birket Forster, Orchardson, J. McWhirter, Erskine Nicol, &c.

Artists are not exempt from the instinct of humanity to follow a leader. Since the time when Mr. Millais began to paint landscape, and produced his "Chill October," many figure-painters have followed his example. Amongst these Mr. G. Paul Chalmers may be specially alluded to, as his works are strongly characterised by the peculiarities of this school. One of these peculiarities is to choose a subject which has nothing in itself to recommend it, a bit of nature which no one in search of the picturesque would for a moment linger over, and this is rendered in a realistic manner with broad touches. In "Running Water," we have a composition of which the background is entirely occupied by a bank of trees, through which only a few very small particles of a grey sky are visible. These trees are so darkly rendered that it is with extreme difficulty that the reticulation of the branches, where at all attempted, can be discerned, and yet the rest of the picture suggests broad daylight. The rush of water, as it hurries down a confined slope towards the spectator, is rendered with great force and dexterity, and the stones and vegetation on the fore-part of the bank are generalised with a broad and skilful touch. The whole picture bears the impression of a large study painted on the spot, the rich tones of which are blended in a manner not usually found in the works of the generality of landscape-painters.

"The Warning before Flodden," by Mr. John Faed, represents the scene in which James IV. was warned against his intended attack upon England by an unknown visitor. The figures are happily grouped, the incident is graphically told, and the execution is careful; but the texture is meagre and the colour unsatisfactory, each garment being of a definite colour, without blending or harmony of tone.

An early work of Sir George Harvey's "The Covenanter's Communion," which has been presented to the Academy, is exhibited. It is interesting, as showing the complete change both as regards subject and manner which has taken place in the work of the president. A subdued harmony of colour, befitting the solemnity of the occasion, pervades the scene, and an all-absorbing feeling of devotion, without exaggeration, is expressed in the faces and action of the members of the small congregation, whose temple is a secluded nook on the hill-sides. Sir Noel Paton's "Christ and Mary at the Sepulchre," does not impress us with a like feeling of solemnity; the idiosyncrasy of the artist is too obvious throughout the work, which is rendered in his usual smooth, polished style. The figure of Our Saviour is wholly surrounded by that phosphorescent light which Sir Noel delights in reproducing, and which does not appear to us an improvement upon the simple nimbus, and even that is now generally omitted in works of this class.

Freshness and vigour characterise the large sea-piece by W. McTaggart, "Through Wind and Rain." A brisk gale has sprung up over a stretch of sea, causing a fleet of fishing-boats to run for shelter. The nearest boat, manned by bronzed fishermen, who adjust themselves to the leeward slope of the vessel, dashes impetuously towards the spectator: the feeling of rapid motion is here expressed in a masterly manner. The scud of the waves, the drifting spray and clouds through which the line of boats is seen bearing on in

single file till lost in the distance, are given with a breadth of touch and truthfulness of expression which contribute to the general effect aimed at.

Mr. R. Gavin's "Moorish Women at a Well" has a look of reality about it. There is a lithe gracefulness about the women distinctive of their nationality, and their postures and grouping are natural and unrestrained. There are fine phases of colour, too, in the work, particularly in the drapery of the woman who balances a jar upon her shoulder. Mr. Gavin also utilises his Eastern studies by producing a Scriptural subject,—"Naaman the Leper and the little Jewish Maiden," which contains good work, but is not so satisfactory as his rendering of the every-day incident. Mr. Fettes Douglas's speciality used to be the rendering of bric-a-brac, old furniture, tapestry, &c. The contents of the "Lumber Room," in which a lady is ransacking an "Old Bureau," are however given in a slovenly manner, and the lady who is engaged in that occupation must certainly have discovered something very wonderful to account for the ghastly pallor of her emaciated countenance. Probably the discovery is the confirmation of long and harassing doubts. Be that as it may, the picture is neither attractive nor instructing.

The effect arrived at by Mr. Sam Bough in "Peel Harbour" is similar to that given by Mr. MacTaggart, but he has hardly imparted to it the same unity, force, and vigour. A stone pier in the foreground is crowded by spectators, who are watching a ship in distress, to the assistance of which the lifeboat is getting under way. The pier and figures are cleverly put in, and from the pier-head onwards to the distance the sea and sky are powerfully expressed, but the nearer portions of the sea are hardly in keeping with the rest.

"Margaret of Anjou and the Outlaw," by Mr. Robert Gibb, is an ambitious attempt, but it has an artificial, commonplace look about it. Mr. O. T. Lyde, in "The Return," shows a cottage interior, in which an old man, seated quite alone, listens with anxious expectancy to a familiar footstep, which pauses at the open cottage-door, against which leans the prodigal, overwhelmed with grief, and hesitating to enter. The scene is graphically rendered in a subdued and harmonious tone. We always revert to the works of Mr. Hugh Cameron with pleasure. What can we say regarding them that we have not said before? The subjects are of the same homely nature, the touch as delicate, and the colour as pure as heretofore. Such a work as "Good Night," where a mother holds her infant to a sister a year or two older to be kissed, is one we would delight in possessing, and never be tired of. Mr. Cameron has, we understand, taken a studio in London, and will shortly join the company of his countrymen located in the metropolis. The works are a reflex of the man; there is no humbug about either of them.

"Kelp Burners in Gigha," by J. O. Stewart, is a seaside scene after the manner of Hook. There is a fresh open-air effect pervading the scene, and the figures are happily grouped, and the whole painted with a firm touch and brilliancy of colour.

Mr. W. F. Vallance now devotes himself to the production of comical Irish incidents. "Och Hone," "Contraries," &c., are feeble when compared with similar productions by Erskine Nichol. Mr. Vallance may relish Irish wit, and be amused by the display of Irish characteristics; but he has not probed to the bottom of them. Mr. Vallance, by the way, is another of the figure-painters who has taken to landscape. His "View in Glenfinlas," of a waterfall, shows considerable dexterity of handling, but fails in impressiveness.

"The Turning Point," by Alexander Johnstone, if it did not suggest so strongly the temperance movement, would be more readily accepted as a worthy work of art. The story is the too common one of a young and rather handsome man, who prefers the society of the public-house to that of his sensitive-looking wife, who is using all her power of persuasion to prevent him joining two boon companions, who are signalling to him through the cottage window. The artist enlists your sympathy in favour of the better cause, but leaves it to appear extremely doubtful which side will win.

Society of Engineers.—On Monday, the 1st of March, a paper will be read on "The Construction of Modern Piers," by Mr. J. W. Wilson, jun.

THE FUTURE OF ARCHITECTURE.

Recent discussions have shown that there is no desire on the part of the profession to disguise the defects, the demerits, and the failures, which have in so large a measure exhibited themselves in connexion with our modern architecture, and the system to which we are indebted for our architects. The main practical conclusion we have now to face is that the production of our architecture has passed into the hands of an immense multitude throughout the country, of whom it is impossible to say that they are the fittest minds for the task they have undertaken, or, that if so, there is any guarantee of their qualifications. This is a condition of things with which it is impossible immediately to deal; any amelioration must be gradual, progressive, and prospective. No system of compulsory examinations could be set up, or the absolute necessity of a diploma before practice enforced, as things now are; and we fear that the offer of voluntary examination, and the advantages which might accrue in professional status by being fortified by such a guarantee would be responded to to a very slight extent. Hence, as we have said, any remedial measures must be regarded chiefly in their prospective aspect. What we have now to determine is, whether we can fairly and safely hope that there are elements in the present condition of things, which will, if slowly, yet surely, work their own cure. In the present intermingling and jostling, as it were, of engineer, builder, and architect on the same field, may it be hoped that the gradual improvement of public taste, and a higher tone in the patronage upon which architecture depends, will eventuate in a demand which will be unable to tolerate that which now passes for sufficiently good architecture, and in the end so far eliminate the bad, that false, mediocre, and pretentious work will sink to its level, and that which the true architect can alone supply meet with its fitting place? We are very distinctly of opinion that it is fallacious to indulge such a hope. It must be a fact within the knowledge of all who have thought upon fine art in any of its branches, be it architecture, painting, sculpture, music, or poetry, that "taste" is a most variable quality, and grows by that which it feeds upon. Illustrations innumerable might be given as to this, but we will confine ourselves to a single cognate instance. Can there be a question that, even among minds of an average range of culture and susceptibility to æsthetic influence, that after being accustomed to a low type of art, say in architecture, and perfectly satisfied with this, because knowing no higher or better, the sight of indubitably finer buildings would at once raise the taste, and render that before tolerated with complaisance almost insufferable. Now, this we take to be the key of the whole question of an advance in the public taste as to art, and it decides at once what we believe must be found to be the truest ground upon which any hope can be built, that the "architecture of the future" will prove any positive advance upon what is now in its main extent a somewhat mongrel and unsatisfying state of things. The public taste can become debauched or perverted by showy, pretentious work, which will not bear investigation upon any principles of true architecture; and which, if capable of startling and creating a "sensation," will not answer to that one criterion of true art, its sufficing to afford an abiding source of pleasure. All this character of art is increasingly abundant around us, for evidence of which we have only to point to the majority of new edifices which arise in the process of rebuilding now so rapidly going one. The issue of all this cannot be such a purifying and ennobling of public taste and art-patronage as will lead to the production of works which will stand the test of lasting admiration, but rather their degradation, and will leave few precedents to posterity such as the thoughtful, noble works of Greek and Mediæval times have been to subsequent ages. How, then, are these tendencies to be corrected and the foundation laid for a pure and noble system of art-culture and development? While our architects, or the large body who undertake our architectural works, are either incapable of anything better, or persist in pandering to a false taste, there can be no improvement, and the present conditions of patronage are such that the chances are that the meretricious will outbid a higher and truer class of art. Nor will improvement come, as some fondly imagine, by a dissemination among all classes of some knowledge of the principles and practice of art. The *utmost* that can be done in this way will go so little towards forming a correct taste that it cannot be taken into reckoning with what we have stated to be the practical means which creates, fosters, and maintains true taste in art, viz., the exhibition of instances of such noble works as gradually, if not at once, make themselves felt, and adjust the standard of what is satisfying against inferior and ignoble work. The consideration of this question has often been before us, and we can only resort to what we have already stated, that, in the present condition of English architecture, the admitted failure of the pupil-system, the impossibility of enforcing a system of examinations and degrees, and the fact that our present architecture is in the hands of such a numerous band of practitioners and aspirants, there is no *immediate* prospect of the application of any means which can act as a direct remedy. But there is a *prospective* one, and this we think, to all who will give the subject a candid and thoughtful attention in its present aspects and bearings, will be found to consist in the establishment of architectural colleges. These would provide an arena for the combined and sustained study of architecture in all its fulness as a fine art unaffected by the chance influences of misapplied patronage and misinformed public taste to which our architects are now necessarily subject, and, if rightly organised, would attract only that class of minds which find in architecture an expression of the art-faculty with which they are endowed. The cultivation of any art beyond the limits of those who can enter upon it with some sort of original creative faculty is a mistake and waste of effort, and in modern times has given us that plethora of mediocrity in nearly all the fine arts which has been their bane and misfortune. But architectural colleges of the nature we have in view, would send forth trained bands of men agreed upon the common principles at the base of all architectural practice in varying constructive modes and the unity of decorative effects; which, as matters of ascertained truth could not be diverged from, as now, at the dictate of any caprice; while leaving a full field for the exercise of that individuality and originality which must ever form a considerable factor in all true art.

It is comparatively easy to point out the defects of our present architecture and the system which promotes them, and, by a converse process, to arrive at what might be regarded as an ideal condition of things, which might well be taken to be such a state of the public taste as could not tolerate the exhibition of bad architecture; and hence the necessity that our architects should be only those who could satisfy such a high demand. But, as we have seen, the cultivation of the public taste is the direct product of that which is placed before it, and higher results can only be attained by beginning with those in any age and nation best calculated to be the purveyors of art to those who have it not. There is one all-important point in regard to architecture which applies with less force to the other fine arts. An architectural work, whether we will or not, *must* come under our notice, and must exercise an influence from which we cannot escape, either for good or evil, in the elevation or lowering of our taste. Herein lies the *raison d'être* for seeking to confine the production of our architecture to the best minds and hands; and, after the fullest consideration of the whole subject, in view of the actual condition of things amongst us, there seems nothing which offers any prospect of a remedy other than the combining of the best contemporary genius and talent in the study of architecture in such a form as shall be able so to take the lead that the public will not be long in judging what are true art-products and what are not, and in rendering honour and aid to those alone entitled to deserve them. A system of architectural colleges effecting this result would soon winnow the chaff from the wheat, and be able to dispense all those distinctions that are now wanting in the architectural profession.

We cannot but regard the present as a time of crisis in the history of architecture in this country, and though we have before in a detailed manner pointed out the place and special value of something of an architectural collegiate system for the satisfactory cultivation of the art, and the formation of a genuine architectural profession in the midst of the divided heterogeneous influences of the present time, we would again commend this aspect of the subject to the earnest attention of our thoughtful professional readers. Art now stands in a different relation

to society to what it did in any former time; we cannot restore old conditions, but must meet the new ones as best we may, and the two points which have now to be conciliated, are the providing scope for the best art-faculty amongst us, and such a cultivation of the public taste as shall reduce patronage of the inferior and mediocre to a minimum. A well-organised system of colleges, whether affiliated to the universities or not, would effect the one, and general art-congresses in their public and popular aspects would do not a little in effecting the other. It is to be hoped that the admirable bequest of Chantrey for the encouragement of the highest art in painting and sculpture may meet with some imitator in the interests of architecture; a similar sum in trust in the hands of a few of our most devoted and distinguished architects and connoisseurs would go a long way towards setting on foot an influence upon our architecture such as the present mercantile and fictitious repute notions which govern its patronage can never afford.

FIRES CAUSED BY RAILWAY ENGINES.

THE spectacle of a steam thrashing-engine puffing forth sparks in close proximity to a stack of wheat or hay is by no means uncommon, and yet it is comparatively seldom that one hears of the destruction of such property by fires engendered in this way. This fact is probably due to the circumstance that there are always workmen at hand, who are ready to extinguish the first outbreak of fire, should one occur.

But with locomotives the case is different. These engines traverse miles and miles of country, without being within sight of a human being, and as they are continually emitting red-hot cinders, it is at first sight highly probable that they will set fire to some inflammable material, which is out of sight again before the driver could perceive any mischief, and might burn away without attracting any one's attention.

The extensive tracts of blackened turf and smouldering furze which one so frequently sees on the railway banks during the summer months are sufficient proof of the damage that can be inflicted by a chance spark from a locomotive chimney falling on dry materials, and fanned by a gentle breeze. Farmhouses are often situated near railways, and stacks of wheat and hay, with barns and other wooden outhouses often thatched with straw, are of frequent occurrence near the iron track. In the summer-time whole fields of dry hay and corn are liable to be "licked up" by a fire engendered by such a little cause; and as a matter of fact these conflagrations do sometimes occur.

The question is, how far is this cause of injury preventible? In America, where nearly every railway engine uses wood as sole fuel, the chimneys of the locomotives are built in a special manner, and provided with a special grid or grating, to intercept

> "The burning sparks that fly
> Like chaff from a thrashing-floor,"—

or rather, that *would* fly, if this precaution were not adopted. In this country, however, and elsewhere where wood is scarce, coal or coke is the chief fuel used; and though occasional red cinders are cast forth, there is no such continuous stream of sparks as the American engines would supply,—a stream that would quickly set ablaze whole tracts of prairie and of forest during the hot summers of that continent.

The cinders falling from the ashpan of a locomotive, though larger and more numerous than those ejected from the funnel, are not a very immediate cause of injury in this way, as they principally fall on the ballast of the line, and do no harm: though we have met with instances where the "sleepers" themselves, especially when pickled or pitched, have been charred away. We have again seen huge masses of glowing "clinkers" poked forth from the furnace by the stoker, and cast "overboard" on the wayside,—to fall wherever they list. This, however, is not a common cause of danger, though the practice is reprehensible: and the possible injury from sparks flying from the chimney is the most important consideration.

The recent case of Berens *v.* The London, Chatham, and Dover Railway, in which the complainant claimed and obtained damages to the amount of 95*l.* from the company, for the damage done to woodlands in his possession between Bickley and St. Mary Cray, Kent, by fire caused by a spark from an engine in the spring of 1874, has brought the question prominently before the public. In this case the engine alleged to have caused the injury was said not to have been fitted with proper appliances for intercepting sparks.

Several methods are adopted in this and other countries for effecting this object. One plan is to have an improved ash-pan, with a perforated fender in front of the damper, thus allowing the air to pass through, but preventing the passage of cinders. A second plan is the adoption of a "turban" or wirework cap placed on the top of the funnel, and intercepting the cinders, which consequently fall back into the smoke-box below the damper, and beyond the influence of the draught. An objection to this mode is the fact that the steam rots the wirework, which again, in time, gets choked up with smoke deposits and cinders. Another contrivance much used in America and Switzerland is an umbrella-shaped cap, which prevents the cinders from flying out; but an objection to its adoption in this country is the fact that it is too high to pass under the railway bridges. Another method known as the "grid," consists of crossbars, with transverse rods at intervals of ¾ in., fixed on the smoke-box below the blast-pipe, where it cannot be fouled or injured by the escape of steam from the blast-pipe. Some engineers object to this plan, because they say it throttles the draught, and prevents the engine from doing its work efficiently, though on the South Western and the Lancashire and Yorkshire Railway, and on other railways here and abroad, where the danger of fire is greater in consequence of the heat of the climate, these "grids" are in use.

No specified plan is enforced by the Board of Trade, but railway companies are, under the General Railway Act, obliged to use every reasonable precaution to prevent injury to life and property in any way. Unquestionably, injury by sparks is of common occurrence, and railway directors are bound to prevent such injury as far as possible. Even if no actual damage to private property, such as that alluded to above, were caused, the destruction of hay and grass on the companies' own embankments would amount to a serious item if it could be properly estimated: for the area covered by these banks is very large, and might produce a large amount of hay if preserved and properly harvested.

THE CLEANSING OF THE CLYDE.

THERE is an old rhyme to the effect that "The Annan, Tweed, and Clyde, fall all out of one hillside." This is almost literally the fact, as the three rivers issue from one clump of rising grounds. The hills at the sources are very lofty, and one of them, denominated Erickstane Brae, is famed for the steepness of one of its sides, along which a road is carried at a great height above the narrow vales below. Scott in his novel of "Redgauntlet," thus speaks by the mouth of Pate-in-Peril:—"You must have seen the place as you came this way: it looks as if four hills were laying their heads together to shut out daylight from the dark hollow space between them. A deep black blackguard-looking abyss of a hole it is, and goes straight down from the roadside as perpendicularly as it can go. At the bottom there is a small bit of a brook that you would think could hardly find its way out from the hills that are so closely jammed round it. It is called the Marquis of Annandale's Beef-stand, from the Annandale thieves having put their stolen cattle in there." Amid such rugged scenery the Clyde is born. The river within a very few miles of its source assumes a considerable size through the accessions of several mountain streams, the most remarkable of which is Glengonar Burn, which is distinguished by the mineral wealth of its banks. About four hundred years ago an attempt was made to dig gold upon its margin, but the work was not repaid by the results; occasionally, however, the shepherds pick up little nuggets in the neighbourhood of the stream. At the source of this stream 1,300 ft. above the level of the sea, the little village of Leadhills flourishes amidst a wilderness of dismal heathery mountains. Yet among such wild scenery Allan Ramsay tuned his harp and sang his songs in praise of the home-land of his birth,—

> "Where mineral springs Glengonar fill,
> Which joins sweet-flowing Clyde."

Those who have travelled between Carlisle and Edinburgh or Glasgow on a wild winter's night know what a howling wilderness this pastoral portion of Clydesdale is. On flows the river until Lanark is nearly reached, when it suddenly narrows between rifted rocks, and with mighty leaps from chasm to chasm gains its lowest level, and, broadening out, flows slowly to the sea. It is at New Lanark with its crowd of cotton-mills that its pollution commences. When Thomas Campbell, the poet, was installed as Rector of Glasgow University he paid a visit to Lanark, one of the scenes of his boyhood, and thus wrote:—

> "And call they this improvement to have changed,
> My own fair Clyde, thy once romantic shore,
> Where Nature's face is banish'd and estranged,
> And Heaven reflected in thy wave no more.
> * * * * *
> And for the daisied greensward down thy stream,
> Unsightly brick lanes smoke and clanking engines gleam."

As the Clyde passes the town of Hamilton it receives a new accession of pollution, and when it has passed under the arch of the far-famed Bothwell-bridge and reached the town of Blantyre, with its cotton-mills and dye works, the poor river may be said to be murdered, and to float seaward a liquid mass of pestilence. Glasgow is reached, and the sewage of the city, added to the tribute of all imaginable horrors sent down by the river Kelvin, crowns the dreadful work. A song-writer of the western city, fifty years ago, has told us that he was wont, with his sweetheart by his side, "to wander many a night in June along the banks of the Clyde," a thing that nobody but a madman, or one of suicidal tendencies, would think of doing at the present time; and as for the Pear-tree Well, on the banks of Kelvin-grove (!), it is but a trysting-place for rats and other loathly creatures.

In the beginning of the sixteenth century the channel of the Clyde for about thirteen miles below Glasgow was interrupted by fords and shoals, and the smallest of sailing-boats found great difficulty in reaching as high as the Broomielaw, the quay of Glasgow. In 1556, by the united exertions of the inhabitants of Glasgow, Renfrew, and Dumbarton, the river was cleared of many obstructions, and small craft could ply with tolerable ease between Port Glasgow and the city. In 1769, James Watt, the engineer, examined the river, and drew up a report for the guidance of such as the Town Councils might employ to finish the undertaking. A Mr. Goulbourne, of Chester, in 1775, fixed up 117 jetties along the banks of the river, and effected 6 ft. of a depth of water at Glasgow. He was followed in 1798 by a Mr. Spicull, chief superintendent of the works, who gained a depth of 9 ft. 6 in. at the Broomielaw. And now, where, in the days of our great grandfathers, "vessels from Dumbarton, Greenock, and other *distant* parts," were wont to unload their cargoes of peat and fish, the hugest of ocean-going steamers are moored with ease and safety, and it is within the memory of many persons far younger than the "oldest inhabitant" that the good folks of Glasgow used to wade the Clyde at low tide at the spot from whence now the tourist-steamers take their departure.

But while all this attention was paid to the embanking and deepening of the river, its sanitary state was entirely neglected, and now, when it has become a nuisance to the eyes and nostrils of all who dwell upon its banks, the matter will bear shunting no longer. It has been placed in the hands of Sir John Hawkshaw, and it is to be hoped something will be done, and that speedily. There are great tracts of waste land down the river-side, to which a large portion of the sewage might be carried with profit.

EVERY SHIP ITS OWN MOVER.

AN invention for utilising the motion of ships at sea by the compression of air to be used instead of steam for their propulsion has been patented by Mr. R. Browne, of Kidwelly, Carmarthenshire. The *modus operandi* is as follows:—Chambers are fitted to a ship either entirely outside or partly inside and partly outside her outer skin, open at the bottom but closed at the top, except a pipe connected with an air reservoir, placed on board the vessel. In this connexion pipe a valve is fixed, which allows the air to pass from the chambers to the air reservoir, but which prevents its return, and also a provision to stop water from passing with the air into the reservoir. This is the machinery, and the compression of the air is to be effected by the rise and fall of the vessel, caused by the action of the waves. When the vessel rises, the chambers are freed from water and filled with air, and when she falls this air is compressed by the weight and impetus of the vessel in falling

to any degree required, the water, owing to its *vis inertia*, acting *pro tanto* as a solid body, against which the air in the chambers is pressed and compressed by the weight and impetus of the ship. For economical working, it is proposed to use the air at an effective pressure of 60 lb. to the square inch, and this is regulated by a valve in the air-reservoir. The invention is automatic, working of itself at all times when the ship is moved by the waves, but it may be thrown out of gear at any time by simply turning a couple of stop-cocks. Chambers in the aggregate of about the size of a first-class steam launch on each side of a ship are sufficient to compress air enough to supply the place of steam to a vessel of 2,000 tons register. The invention will always be effective when a ship rises and falls 4 ft. or 5 ft., and it is rarely that vessels do not do this when fairly at sea.

From experiments made on board the Channel squadron in 1873, and also by a gentleman during a voyage from Australia, it has been ascertained that ships in a seaway rise and fall (taking their rise and fall and rolling as one motion) from nine to fourteen times per minute. And it is this motion of ships in a seaway which it is intended to utilise by this invention.

With regard to any risk of the chambers being carried away in rough weather, when fitted entirely outside a vessel, as paddle-boxes, false sterns, and other projections stand stress of weather, the inventor maintains that there is no reason why these chambers should succumb, and when fitted inside the outer skin (except a small portion of the chambers) no such risk attaches. Any obstruction to the way of a ship caused by the projection of the chambers when fitted entirely outside a ship, the projector thinks, may be readily neutralised (when sail is carried) by a little additional sail, but in no case would this obstruction amount to much, and when the chambers (all but a small part), are fixed inside the outer skin of the vessel the area of the projecting portion will be so small that the obstruction will be infinitesimal.

Experiments on a large scale are, of course, needed. There is an immense amount of power at large in the motion of the sea: the difficulty is to devise means to utilise it efficiently.

PROPOSED AQUARIUM IN PLYMOUTH.

A scheme for the construction of an aquarium in Plymouth is maturing. According to the plans which have been prepared, a Classic building is to be erected as the front edifice facing the sea. On the ground-floor will be a lobby, with rooms on the left for the secretary, the Board-room, and clerk's office. On the right are to be a refreshment-bar and dining-room. At the end of the passage are the turnstiles to admit visitors and subscribers to the aquarium. This has a double corridor, with tanks right and left. In the centre, under a dome, will be the orchestra. At the end will be a rockery, and a waterfall, fountain, &c.; and to the left of the extreme end will be a concert-hall capable of holding 2,000 people, with all the necessary accommodation for the band and chorus, and a retiring-room. A skating-rink, 140 ft. long by 60 ft. wide, will be provided. Then there will be rockeries, ferneries, and picturesque flower-garden, with fountains dotted about.

On the first floor are a billiard-room, a reading, writing, and smoking room, a dining-room, with waiting and service rooms. Above this again, and in the upper tower, are the kitchens. The roof in the centre is to be flat, to afford, for those who prefer the open air, a cool tea, or a quiet smoke, and a view of the regattas, the entrance of the fleet, or the varied passing and re-passing of the vessels in the Sound and in the offing. The site is not definitely fixed upon. The designs have been supplied by Mr. Bedborough, the architect for the Westminster Royal Aquarium and Summer and Winter Garden. Messrs. J. E. & A. Dowson are the engineers.

Institution of Surveyors. — The next meeting will be held on Monday evening, March 1, when a paper will be read by Mr. E. Ryde, entitled "The Rating of Country Mansions." After the reading of the paper (the discussion on which will be postponed until the next meeting) Mr. J. R. Bonny will call attention to the provisions of the Home Secretary's Bill for facilitating the improvements of the dwellings of the working classes in large towns.

LEAMINGTON WATER SUPPLY.

Leamington derives its supply of water from the river Leam, on the banks of which it is situated; a river which takes its source about twenty miles off, in the county of Northampton. Charges having been made, rightly or wrongly, against the purity of the water, the governing body of the town, naturally desirous to remove any doubts which might exist, determined to obtain, if possible, a supply from the new red sandstone, and after much discussion they resolved to bore, and in 1872 they commenced boring, near to the sewage pumping station, which proved unsuccessful. Although disappointed, they decided, under the advice of Mr. Thomas Dale, C.E., of Hull, to again sink a well and bore a hole, near the Campion Hills, on the same geological formation as the previous one. The result of this, as shown by gaugings made by Mr. E. Pritchard, C.E., of Warwick, is that the supply would be insufficient.

It is still the opinion of the engineer, however, that by boring yet deeper, and driving adits, a proper supply might be obtained. One of our correspondents thinks that the water of the Leam is quite good enough; but of this we are doubtful.

NEW SCREEN, WINCHESTER CATHEDRAL.

The screen erected in Winchester Cathedral in memory of the late Bishop Wilberforce and Dean Garnier, from the design of Sir G. G. Scott, is now nearly complete. It has been executed by Messrs. Brindley & Farmer. It is of English oak; the colour is merely toned down with oil used to preserve the wood. The screen rests on a base of polished grey marble, and fills the space occupied by an old one. The *Hampshire Advertiser* gives a fuller account of it, and says,—It has two "returns," and in the northern one, within a glass-protected panel, will be placed the jewelled pastoral staff of the eloquent and energetic Wilberforce, the gift of many laymen and women of the Church. The various spandrels of the lesser arched panels are filled with spirited and accurate representations in high relief of the flowers, foliage, and fruit of the vine—an emblem of the Saviour and of the Sacrament—of the oak, the ivy, briony, brambles, hawthorn, maple. The larger spandrels of the open arches have all foliage in them interspersed with dragons and other apocryphal animals peculiar to Gothic carving, whilst the finials, crocketing, and quatrefoils, &c., have foliage, dog's head, and various ornaments, which, by the carvers' cleverness, convert solid oak into delicate tracery. Perhaps the most beautiful parts of the work are the small heads in the cusps of the lesser arches. These are very varied, extremely clever, and have each an individuality, and a grotesque humour, such as make them equal to the ancient carvings in the choir. The central arch will be fitted with gates in metal-work.

BRICK-MAKING MACHINERY IN HOLLAND.

Mr. S. W. Del Campo has addressed the following communication to the Society of Arts. It is worth the attention of some of our readers:—

The most important material for building houses, pavements, bridges, &c., in this country is clay, found in nearly every part of the country, but of different quality on the slopes and beds of the rivers. The bricks made from it are of red or yellow colour, the tiles red or black, and the size of them differs from 160 to 240 millimètres in length, half that measure in breadth, and a fourth part in thickness. Those bricks are nearly all hand-made and very coarse, 500 to 600 millions being produced this way a year. In the last years, however, English machines for making bricks came in use, and a description of them in the number of this *Journal* for the 23rd of October last, induced me to say a few words about their introduction in this country. When those machines were introduced in Holland a few years ago, they were rejected, being too expensive, not only by purchase, but also in their working; they did not give any profit with our cheaper manual labour, and were soon laid up in a dark corner to rust away. It was rather a great disappointment, as English machinery in general is much admired in this country, and preferred to our own make. I took the trouble to examine those ill-favoured products of English skill, in the interests of our brickworks as well as in that of the manufacturers in England, and found generally those machines having strings, cutting the bricks from the clay, very inefficient, leaving the edges not sharp enough to our desire, and the bricks wanting in consistence. In Vienna, before last year, my attention was drawn to Mr. Page's clay-pugging mill from Bedford, preparing clay for 5,000 bricks in a day, and to Ruston & Proctor's mill from Lincoln for 12,000 bricks a day with Murray's cutting table, described in the *Journal* of the 23rd October last, and also to a very heavy machine of Messrs. Bradley & Craven, Wakefield, of which there are two sorts, both being rather expensive and requiring much motive power, but working very well by pressure. I gave a description and illustration of this useful machine in my report on the progress of industry in the last ten years in relation to the Vienna Exhibition. The bricks are herewith pressed out of the clay as soon as it leaves the pugging-mill, and formed on a circular moving mound table, producing two bricks at a time; in this way 20,000 very good bricks can be made in ten hours.

I should like to see English manufacturers improving those kind of machines in this way, that they were less costly and more efficient, and I will give an example how this might be done.

As English machines did not come in favour here, a machine was made in this country of very simple construction, consisting of the usual pugging-mill with perpendicular revolving cutter, and a set of screw-like knife blades fixed to it, forcing the prepared clay underneath into two moulds, containing five well-formed bricks, the whole machinery being drawn by three horses. Those iron-moulds are wetted, strewn with dried sand before they are filled, and scraped off with rollers after that. In this way 20,000 excellent bricks are made daily at the brickworks of Messrs. Van Keukelom & Co., Utrecht, with a machine costing no more than 150*l*. Those bricks and the masonry made from them were awarded a medal of merit at the International Exhibition at Vienna, and judged by the international jury to be of a very good quality; they are of great resistance in sea-water and on pavements, and therefore 1*s*. higher in price than hand-made bricks as a proof of their superiority.

The way of preparing clay for bricks here is somewhat different from that in England, as the bricks are made soft with a large quantity of water, and set up and dried in sheds, before they are burned. English brickmakers hold this addition of water to be useless, but in reality it binds the clay better and gives more coherence and strength to the burnt brick; moreover, it makes the working of the machines much easier; bricks made in this way are really metal-like; they sound like metal when they are knocked against each other.

The price of those bricks is different, from 15*s*. to 40*s*. per 1,000; that of a cubic mètre of brickwork about 2*l*.

The quality of this building material and the manufacture of bricks are of great importance in the building trade, and for every durable construction; this may justify this communication on the question in Holland and the English brick-making machines sent to that country.

THE DENS IN ST. PANCRAS.

Instances of the miserably unhealthy hovels which abound in different portions of the metropolis, and have been described in our columns again and again, are constantly being spoken of. A case of this kind was brought to light in the course of a coroner's inquiry last week. Dr. Hardwicke held an inquest on the body of an old woman who had been found dead in the back-kitchen of a house in Munster-street, St. Pancras, and whose death was said to have been caused by the unhealthiness of the house in which she lived. It further appeared that the landlord of the house is a medical officer of health for one of the metropolitan districts. Among the witnesses examined was a man named William Lovell, a locksmith, who stated that he resided in the house, and that it contained six families in eight rooms. The deceased, he said, lived in the back-kitchen, which was in a dirty and unhealthy state. Damp came through the walls, and the deceased had to put pails to catch the water. There was stagnant water in the yard, and the inmates suffered from the offensive smells in the house. A man named William Clarke, formerly residing in the house, but now a patient

in University Hospital, also stated that the stench in the house was abominable, and he had frequently to leave it and take a walk, to avoid being poisoned by the foul drains. He thought if the floorings of the kitchens were taken up that stagnant filth would be found underneath. He believed that the death of the deceased was accelerated by the foul atmosphere of the house, which was farmed out in tenements, and the complaints of the lodgers were ignored. William Rouch, the sanitary inspector of St. Pancras, deposed to visiting the house on the 18th of last month, in consequence of complaints which had been made, and found that the walls of the back-rooms were wet. The back-kitchen, in which the deceased resided, was exceedingly damp, and when she opened the door the stench was awful. The closet was without water, and the front area drain was untrapped. On the 9th of this month, in company with Dr. Stevenson, the medical officer of health for St. Pancras, he again viewed the premises, and found the yard flooded, and the closet still without water. The coroner's jury had also visited the house, and complained of the condition of the house, one of them stating that the place was altogether so filthy that no man would keep his dog there. It was the worst place he had ever known a human being to inhabit. The jury, in giving their verdict, expressed their hope that in the case of this house the provisions of the Sanitary Act would in future be strictly enforced.

HOUSE AGENTS' CHARGES.

SIR,—The attention of the Institute of Estate and House Agents having been drawn to a case reported in your paper of January 23rd (Finlayson *v.* Brickwood), where an agent has made a double charge for commission, and states that it is customary to make a charge against vendor and purchaser, the council will feel greatly obliged if you will allow them to state they consider such charges altogether extortionate, and no member of this Institute would be allowed to make a double claim.

I beg to enclose you a list of the members, by which you will see we have forty-two members, including nearly all the principal firms in London, and it has been established, amongst other objects, to maintain a uniform scale of charges, and to protect the public from overcharge or imposition.

HENRY HATCHETT, Secretary.

ARCHITECTS' ACTIONS.

BUTTERWORTH *v.* KING.

THIS was an action, tried at the County Court, Ipswich, to recover 24*l.* 15*s.* for preparing tracings from drawings of Felixstowe Railway, making second set of tracings of Orwell Railway, and stationery and expenses. Mr. James Butterworth, architect, Ipswich, was the plaintiff, and the defendant was Mr. Charles B. King, civil engineer, Dowgate-hill, London.

The action had been adjourned from the last court, on the application of Mr. Watts, who was instructed for defendant, on condition that a certain sum was paid into court.

The Judge inquired whether Mr. King was there then, and Mr. Watts replied that he was not. He had written to Mr. King four times, and had received one letter from a gentleman purporting to be his private secretary, who said Mr. King was too unwell to attend to business.

Mr. Butterworth was sworn, and proved the engagement. Letters were also put in, in one of which, Dec. 12th, defendant stated that he should be in Ipswich the following week, and added "when I will discuss your account, which is enormous, and in which I think there must be some mistake. You told me 5*s.* per hour. We pay in London 1*s.* an hour, but as I agreed for the 5*s.* I don't mind that. I fail, however, to see how your account has been made out even on this basis; however, as I said before, we will discuss it when I next see you."

An account was handed to the Judge, from which it appeared that Mr. Butterworth charged 10*s.* an hour for his own time, and his Honour said he could not stand that; it did appear to him monstrous for tracings.

Mr. Butterworth explained that the original order was extended so that he had to work himself till eight o'clock two nights.

The Judge said he did not suppose it did him much harm. He said he should not give judgment for a farthing more than 20*l.* 5*s.*, remarking that lawyers' bills were fools to this.

The Albert Memorial.—The statue of the late Prince Consort by the late Mr. Foley, to be placed under the canopy of the Memorial in Hyde Park, has been safely cast. Earlier completion was delayed by an accident to the mould. The statue now only requires the final chasing.

SOMETHING LIKE A FOREMAN.

A GENTLEMAN in Herefordshire inserts the following advertisement:—

"Wanted, an experienced General Foreman, to act as resident Clerk of the Works under the steward on a gentleman's estate. He must be a good practical builder and draughtsman, capable of superintending all repairs, indoor work, and the planning of new buildings. Must understand the profitable conversion of timber, the management of timber-yards, saw-mills, gas-works, and general steam-machinery; be competent to set out, measure, and value all descriptions of masons' and joiners' works, make working drawings, and keep proper accounts. Must be business-like, and of unexceptionable character. Large family objected to. Salary, 100*l.* per annum, with free house and garden, and 5*l.* yearly allowance for fuel."

The advertiser evidently thinks talent cheap. If he can find half a dozen such "foremen" at the price, we shall be glad to take them off his hands, and allow him a profit.

SERIOUS INJURY TO A BUILDER.

MASON *v.* THE GREAT NORTHERN RAILWAY COMPANY.

THIS was an action in the Court of Exchequer, on the 20th inst., to recover compensation in damages for serious personal injuries sustained by the plaintiff when riding in a third-class carriage of the defendants on the 20th of October, 1873, whilst the train was passing up an incline near Moorgate-street, such injuries arising as alleged through the negligence of defendants' servants. The defendants did not deny their liability.

The plaintiff was a builder and a mason. He was in the habit of executing large contracts for bridges and other works connected with railway and similar extensive undertakings, and nearly up to the time of the accident was actually engaged in the fulfilment of contracts with the Great Northern Railway, as well in the execution of works for private parties. The accident in question was occasioned by a collision with two trains, which occasioned a dreadful shock to the passengers. The plaintiff, who up to that moment was a remarkably strong and healthy man, received such injuries as rendered him utterly unable to follow his vocation or to do a day's work.

The jury returned a verdict in his favour—damages, 2,500*l.*, being in addition to the sum of 150*l.* lodged in court by the railway company.

THE "STRIKE" AT JACKSON & GRAHAM'S

SIR,—Please allow me to differ with you as to the correctness of your heading in the report of the prosecution of certain workmen by Messrs. Jackson & Graham. You had it, "The Strike at," &c. Now, Sir, there has been no strike in connexion with that affair. There was a question of overtime before the above firm, and the deputation that conveyed it were informed that they should receive an answer in the course of the day (this happened on Friday, 13th November, 1874), and so they did in the following arbitrary manner:—The foreman called all the workmen together at five o'clock on Friday evening, told them that they were all discharged at one o'clock on the morrow; and he (the foreman) would remain at the shop until three o'clock to receive applications for work on the new system, that being piecework (which means a reduction in wages). Now, Sir, if you call this a strike, I do not; so you will oblige by inserting this in your next impression. I might have stated that only one out of thirty-nine men ask to be reinstated.

ANTI-STRIKE.

DANGEROUS HOUSES AND HOUSELESS POOR.

MR. NAPIER, of the dangerous Structure Department of the Metropolitan Board of Works, applied to Mr. Arnold, at the Westminster Police-court, for an order to forthwith remove the inmates from the house No. 17, James-street, Buckingham-gate, in consequence of the dangerous condition of the building.

Mr. Vulliamy, architect to the Board, and Mr. Edward Drury, the district surveyor, had both certified that the building was unsafe, and the fall of snow would render it yet more dangerous, as one of the chimney stacks had fallen outwards some inches.

After hearing evidence to this effect, Mr. Arnold issued his order to forthwith remove the inmates, and the warrant was entrusted to Emmanuel Davis, 234 B, to execute. There were no fewer than seventeen persons in the house, mostly children, and they all had to go out into the snow, which was then falling heavily, leaving their furniture and belongings behind them. Those who had nowhere to go were offered the workhouse adjoining, but they refused it. The house is one of the oldest in Westminster, situate in Brewers'-green, close to the Blue Coat School. The doors were all padlocked, and on Davis returning to the Court and informing Mr. Arnold of the execution of the warrant, the evicted persons applied to know what they were to do, as they were homeless.

Mr. Arnold said he could give them no advice. The structure had been proved to be dangerous to live in, and they had better take the best means under the circumstances to find shelter for themselves and families.

CEMETERY CHAPELS, GOOLE.

THE Burial Board of Goole, on Friday in last week, examined twelve designs submitted in competition by architects for their new cemetery chapels. The one prepared by Mr. William Watson, of Wakefield, was selected, and he has since received instructions to proceed with the work. The cost is to be 3,000*l.*

Books Received.

The Local Government Directory and Guide for 1875. Knight & Co.

THE thirty-fourth issue of this serial shows the large proportions to which the subject has grown. The length of the lists of the urban and rural sanitary authorities printed ought to give assurance that few parts of the country are now unattended to. The names and addresses of the surveyors should appear in the long list of unions.

A curious exemplication of the divided manner in which our laws are administered, is afforded by the fact that the scope of this Directory is not supposed to include the Metropolitan Board of Works and the metropolitan district surveyors, to whom the discharge of important sanitary duties is intrusted.

VARIORUM.

THE *Printing Times* thus carries on one of our propositions:—

"The *Builder* recently contained a very useful suggestion in regard to our national library. It was remarked that 'there is no special room in the reading department of the Museum for periodicals and the quarterlies, and what may be termed the *current* literature. All complete books, and printed matter of all kinds, first go into what may be termed the private apartments of the Museum; to that portion of the library, that is, wherein the public are not admitted. There they remain,—for such we believe is the rule,—for a certain time before they get into the regular library, and so to be asked for and obtained for the purposes of reference or reading in the usual way. It is difficult for those who do not use the Museum as a matter of necessity to estimate the inconvenience of this rigid rule.' We may add, as frequenters of the room for several years, that the *Builder* might have placed the inconvenience in even a stronger light. In that portion of the library appropriated to works which have not to be written for, are placed the reviews, Parliamentary debates, Annual Registers, and similar books of reference published periodically. It requires usually about *twelve months* for a volume of Hansard or the *Quarterly* to reach the shelves to which they belong. What is done with them in the mysterious regions behind and around the reading-room we do not know, but we can certainly testify to the inconvenience of the present apparently unnecessary and unjustifiable system. The *Builder* says:—'Might there not be a separate room,—say the *old* reading-room, in use before the new circular building was erected,—put apart, and to be used expressly for quite *new* books and numbers as soon as published, and for all periodicals, and magazines, and reviews, and books which come out in parts. These books, and monthly and weekly literature, to be written for, and given out to readers, and returned by them in the usual way, so as to prevent this room being used as a mere place of pastime.' If the suggestion of the *Builder* is carried out,—and there is really no reason why it should not,—our contemporary will have earned the gratitude of all literary people."

——The Japanese Government is in just the same position as that of India. They want engineers, and they have established a college to supply them. The *Engineer* gives some interesting particulars:—The Imperial College of Engineering was established at Tokei in 1873, "under the orders of the Minister of Public Works, with a view to the education of engineers for service in the Department of Public Works." All the students are Japanese, and all the professors are British. The principal is Mr. Henry Dyer, C.E., M.A., University of Glasgow, while the professors of natural philosophy, mathematics, chemistry, drawing, and English literature are all men of high attainments. It reflects no small credit on students who have acquired their information through the medium of a foreign language,—English,—that they appear, on the whole, to have passed with much credit to themselves and their instructors. The principal reason we refer to this college here is to show the admirable manner in which it is proposed to combine theoretical with practical instruction. "The course of training will extend over six years. During the first four years six months of each year will be spent at college, and six months in the practice of that particular branch which the student may select. The last two years of the course will be spent wholly in practical work. By this alternation of theory and practice the students will be able during each working half-year to make practical application of the principles acquired in the previous half-year. The system of instruction will be partly what is usually called professorial and partly tutorial, consisting in the delivery of lectures, and in directions and assistance being given to the students in their work." English youths have no such facilities for learning their profession as those afforded by the Japanese Government. We must not omit to add that the entire cost of the student's education, maintenance, and clothing is defrayed for six years; the student binding himself, in return, to give his services as an engineer to the Government for seven years, dating from the time at which he leaves the college.

Miscellanea.

Look to the Drains.—Dr. Whitmore, the medical officer of health for Marylebone, has just issued his report for January. The death-rate was 29·11 per 1,000 of the population, or 3·89 per 1,000 less than the rate of the previous month, but 3·25 in excess of the corresponding month of last year. As to sewers and drains, Dr. Whitmore says that the systematic examination of sewers throughout the parish, on which the surveyor was still engaged, had led to the discovery of many being in the most poisonous, filthy, and dilapidated condition. There was reason to fear that these defects had already in many cases been the remote cause of typhoid and other zymotic diseases. Many of the best houses in the parish, situated in the most aristocratic streets, still had brick drains constructed twenty, thirty, and even forty years ago, and it was only reasonable to infer that most of them were more or less defective. Where such was the case, Dr. Whitmore remarked, the sanitary condition of a house was necessarily very imperfect, and the health of its inmates might, and probably would, sooner or later suffer. He could therefore only advise, and did so most earnestly, that all householders would look to the condition of their house-drains. Whenever they were found to be brick and in any degree defective, let them be taken up and replaced by the best glazed drain-pipes, taking care at the same time to make provision for their proper ventilation, and to see also that they were carried directly into the street sewer.

Restoration of Salisbury Cathedral.—A meeting of the committee for the restoration of Salisbury Cathedral has been held at the Deanery. It appeared that after deducting 1,000*l.* for the choir pavement which had been ordered at a previous meeting, there remained on the Hamilton Memorial account 1,900*l.* This sum the committee voted for the restoration and completion of the stall-work in the choir. A plan was produced by Sir G. Scott of a choir-screen, which is formed in part of the returned stalls and the canopies above them. The Dean stated, on the authority of Sir Gilbert Scott, that the following fittings have still to be provided in the choir:—Altar-rails, sedilia, the carving of the stalls, canopies to the stalls, the grille-work on both sides of the reredos (it will be remembered that Earl Beauchamp has promised the reredos as a memorial to his ancestor, Bishop Beauchamp), a throne, a pulpit, a litany-desk, an ornamental case for the organ (a lady of the diocese undertaking to defray the cost of remodelling and augmenting the present organ), pavement in the choir-aisles, which is at present in very bad condition. It is impossible to estimate these works at less than 9,000*l.* to 10,000*l.*

Industrial Partnerships.—A severe blow has fallen upon the advocates of industrial partnerships as a means of solving the difficulties which so often occur in the relations of masters and servants. In their report for the past half-year the directors of Henry Briggs, Son, & Company, Limited—the great Yorkshire colliery concern which has over and over again been pointed to as having brought about a state of things which would render strikes and lock-outs a simple impossibility,—state that disputes have recently arisen with the men on the question of wages; and the directors deeply regret that they can no longer recommend the continuance of the system of industrial partnership so far as respects the payment of a bonus on wages earned by the *employés*. The men for their part make no secret of their desire to stand on the same footing as the other colliers in the district, and are probably resigned to the abandonment of the bonus plan agreed to at the meeting of the shareholders on Monday.

Michelangelo.—A discovery has been made at Pisa. According to the *Academy*, the noble family of Pesciolini possessed at Pisa some interesting works of art, among others a statue of St. John given to Donatello. This palace, long uninhabited and neglected, was sold to the Count Rosselmini, when the statues were submitted to the judgment of the sculptor Signor Salvini. He pronounced the supposed Donatello to be a statue by Michelangelo, and in all probability that St. John which, as Vasari relates, was sculptured by the great master for the Duke of Urbino,—that is, Lorenzo de Medici, father of Catherine of France. Other artists have confirmed this view.

Wesleyan Chapels.—The report of the Wesleyan Methodist Chapel Committee has just been issued, containing 146 pages. The ordinary income of the chapel fund this year amounts to 9,036*l.*, being an increase of 516*l.* The legacy of the late Mr. Fernley, 20,000*l.*, has been paid by the executors, and has been applied to the loan erections branch of the chapel fund, in accordance with the terms of the will. The following cases have been sanctioned by the Conference:—130 chapels, at an estimated cost of 214,955*l.*; 9 ministers' houses, 4,900*l.*; 21 schools, 11,959; 40 organs, 2,022*l.* Of the 130 proposed new chapels, 47, to accommodate 11,306 hearers, are to be erected at places where there were previously no Wesleyan Methodist chapels, and the remaining 83, estimated to provide accommodation for 21,487 hearers, are to supersede former erections. The total amount contributed in twenty years towards the removal of debt and the cost of new erections and enlargements has been 3,419,919*l.*

The Iron Trade.—Messrs. Wm. Bird & Co. say:—The decline in prices, foreshadowed in their annual report, progresses in every direction, and even the serious and important "lock-out" in South Wales fails to enliven the languishing demand. Pig iron quotations fluctuate greatly, but present rates represent a fall since the commencement of the year of about 3s. per ton on Scotch, and about 2s. per ton on Cleveland, and 7s. 6d. per ton on Hematite qualities. Rails are quoted at 5s. to 10s. per ton lower, and manufactured iron, except for special brands, may be taken at 5s. per ton lower in Wales, 10s. to 15s. per ton lower in the North of England, and outside Staffordshire brands of bar iron are offered 30s. to 40s. per ton under list prices. They add:—"It saves trouble to throw all the blame of the collapse of trade on cost of the various labour processes, but up to the present it is very evident that, even if wages were reduced to or below the standard of 1871, trade would still remain stagnant awhile."

Lighthouses.—The following statement of the sums expended for new works, in building lighthouses, &c., in the United Kingdom, from the 1st of April, 1873, to the 31st of March, 1874, appears in a Parliamentary paper just published:—Wolf Rock, 731*l.* 13s. 8d.; Longships, 6,183*l.* 0s. 11d.; South Foreland, 1,073*l.* 16s. 2d.; Hartland Point, 2,503*l.* 9s. 5d.; Light Vessels, Nos. 46 and 47, to replace Nos. 2 and 4, 1,350*l.* 8s. 1d.; Caistor-Leading Lights, 188*l.* 3s. 2d.; Scattery Island, 7*l.* 1s. 9d.; Straw Island, 99*l.* 17s. 3d.; Carlingford, 13*l.* 19s. 10d.; Pladdy Lug Beacon, 89*l.* 3s. 1d.; Galley Head, 4,089*l.* 3s. 1d.; Dunree Head, 30*l.* 7s. 10d.; New Store at Kingstown, 59*l.* 16s. 2d.; Duheartach, 287*l.* 1s. 7d.; Chickens Rock, 9,843*l.* 19s. 9d.; Turnberry Head, 1,407*l.* 17s. 6d.; new steamer, 20,149*l.* 9s. 9d.;—total, 48,108*l.* 9s. The amounts received for Light Dues during the period in question were as follows, viz.:—Trinity House, 326,818*l.* 6s.; Irish Lighthouses, 22,083*l.* 12s. 11d.; Northern Lighthouses, 50,205*l.* 3s. 10d.

Use of Adjoining Wall.—A case which created interest among the building trade in the district, was decided by Mr. E. J. Meynell, judge, at Bishop Auckland County Court, on the 9th inst. Mr. Joseph Wealands, cabinetmaker, sued Mr. John Braithwaite, builder, for 10*l.* 2s. Plaintiff stated that he had a house in Hexham-street, and defendant had built a new house adjoining it, using his gable and refusing to pay for the same. Edward Foster, licensed valuer, valued the gable at 20*l.* 4s. He said it was a custom, when built against a gable, to pay half the value. The gable had been used by the formation of the flues, but the timber did not rest upon it. He produced a holdfast which had been taken out of the gable. Defendant called John Vickers, who built the house, and who denied having used the gable in any way. His honour gave judgment for plaintiff for 10*l.* 2s.

An Architect as a Working Men's Candidate.—If the desired representatives are to be the "ablest and best working men," who really belong to the working classes, by birth, occupation, and not merely official connexion, then we may ask for a single individual now sitting in Parliament who deserves the name. He cannot be found. Mr. Walton, the working-men's candidate for Stoke-on-Trent, is a successful architect, and if a successful architect can, by any stretch of words or imagination be considered "a labour candidate," why not a successful merchant or a successful banker?—*York Herald.*

Arbitration in Trade Disputes.—Mr. Rupert Kettle met a deputation of the Arbitration Board of the North of England Iron Trade on Monday last, at the Midland Hotel, Derby, to finally settle the working rules. Saturday (to-day) is appointed for the meeting to determine the difference in the Birmingham building trade. On Monday next Mr. Kettle will commence the sittings at Newcastle-on-Tyne, to hear and adjudicate upon the coalowners' notice further to reduce colliers' wages; and if both parties are ready, and time permits, he will enter into the question upon which evidence has been so long in preparation, of the dispute between employers and workmen as to the practical mode of getting steam coal in the Northern coalfield. Monday, the 8th, is the day appointed for Mr. Kettle to sit at Saltburn-on-the-Sea, to settle by arbitration the contest as to the price per ton for working ironstone in the Cleveland district.

Rumoured Difficulties in the Building Trade.—It is announced that a series of difficulties are likely to arise in the building trades of Liverpool, Birkenhead, and the vicinity, should the demand of the men for increased wages be not acceded to by the masters on the 1st of May. The disaffection exists amongst the stone-masons, bricklayers, plasterers, and joiners, who have preferred a claim for a reduction of hours and an advance of wages of one halfpenny per hour, the general effect of the claim being that the men should work a fewer number of hours per week and earn the same wages as before. At present the attitude of the masters is very firm in opposing the demand, but on each side there appears to be a willingness to refer the impending dispute to arbitration. Should this course not be adopted, and matters proceed to an extremity, over 4,000 men will be thrown out of employment owing to the strike and lock-out resulting.

Condition of our Villages.—Mr. Bennett, sanitary inspector, who, in consequence of a fever epidemic, has been examining into the condition of the village of Gerstage, in Weaverham lordship, Cheshire, says, "I have never, in all my experience, seen human habits or habitations so calculated to produce filth, fever, and immorality. The district is almost without drinking-water, none being available nearer than the kennels of the Cheshire Hunt. . . . . Nine-tenths of the houses are without drains, and the consequent stench arising from the stagnant drainage from pigs and other animals, and house sewage, is worse about some houses than I will attempt to describe." Mr. Bennett does, however, describe things almost too shocking to mention. Fever has, of course, been raging at Gerstage "with its greatest virulence and its most fatal effect."

A Timber Yard destroyed in Liverpool. Last week a fire was discovered in the saw-mills and timber-yard occupied by Mr. Peter M'Muldrow, in London-road. The frontage of the yard is in London-road, the premises extending in the rear to Oakes-street, and bounded on each side by Anson-place and Norman-street. In the yard was a brick building of two stories and a basement, the former being used as a workshop, and the underground portion as a saw-mill, while the yard itself contained a large quantity of timber in immense piles. The damage is estimated at over 3,000*l.*, which is covered by insurance in the Home Insurance Company of New York, and the Aziendan Assicuratrici, of Trieste. The building was the property of Mr. Joseph Holme, and was insured in the Royal Insurance Company.

Appointment of Waterworks Manager, Bradford.—At a special meeting of the Waterworks Committee of the Bradford Town Council last week, Mr. Alexander R. Binnie, of London, was appointed waterworks manager in that borough, at a salary of 400*l.* per annum. Mr. Binnie is thirty-six years of age; he served his articles with Mr. Bateman, the eminent engineer; he is a member of the Institution of Civil Engineers; and latterly he has been connected with the Public Works Department of India. The number of applicants for the office was forty-nine, and the choice of the committee was, after the inquiry of a sub-committee, circumscribed to a selection of four.

Blackpool Surveyorship.—Mr. T. Sunderland, an assistant in the Borough Engineer and Surveyor's Office, Salford, was appointed Surveyor to the Blackpool Local Board of Health on Tuesday, the 9th inst.

Public Improvements, York.—The alterations about to be carried out under the direction of the Corporation, in Museum-street, near to Lendal Bridge, considered in conjunction with the extensions now in hand and nearly completed by the Philosophical Society, will doubtless improve very considerably the appearance of the space between the new entrance to the Museum and the bridge, and will render the whole somewhat more in keeping with the important property on the opposite side of the street than it is at present. The chief features in the work contemplated by the Corporation are to lower the walls at the end nearest the Museum and also the top battlements to the depth of 13 ft. for a distance of about 60 ft., to alter the buttresses and palisadings fronting the moat accordingly, and to effect sundry much-needed repairs in the other portions of the fabric. The work has been entrusted to Mr. Joseph Clarke, of Barker Hill, who will commence operations on Monday.

Worcester School of Art.—The annual meeting of the above was held at the Art School, Pierpoint-street, on Tuesday evening. A large and influential audience assembled, under the presidency of the Right Hon. the Earl of Dudley. In opening the proceedings, his lordship expressed the hope that future annual meetings would render it necessary for the committee to call them together in a larger room, and that there would be in the future even more interest shown in the School of Art than there was at the present time. He congratulated the city upon their determination to purchase the Music Hall, so that in days to come, until they had a much larger room, they would be enabled to hear there the very highest class of music.

Restoration of St. John's Church, Newcastle.—A committee meeting was held in the vestry on the 10th inst., the vicar (the Rev. W. E. Houldey) in the chair. The architect, Mr. J. Johnstone, laid before the meeting the draft plans for the proposed alterations, and on the motion of Mr. Councillor Owen, seconded by Mr. Sang, they were unanimously adopted. A large increase of sitting accommodation will be gained under the new arrangement of pews, and the church will be opened its whole length of 140 ft., producing a good effect, as well as largely adding to the comfort of the worshippers. The galleries will be all removed, the organ placed in the chapel by the north transept, and the whole work made as complete as possible.

The School in Hunter-street, Southwark. This school, which was erected under the superintendence of Mr. F. W. Roper, the architect, was completed and opened on the 5th January, 1874. A dispute, however, arose between Messrs. Merritt & Ashby, the contractors, and the architect, as to the amount due to the former, and both parties agreed to refer the matter to the Board architect as umpire, the reference being sealed by the Board on the 25th November last. The amount for which Mr. Roper was prepared to certify was 8,221*l.* 8s. 11d.; the contractors, however, having sent in a claim considerably in excess of this amount. The committee have to report that the Board architect has now given his award at 8,534*l.* 14s. 9d.

Winter in Berlin.—I scarcely dare to think (says the Berlin correspondent of the *Daily Telegraph*) what the consequences to the poorer inhabitants of London would be of such a season as that now, I sincerely hope, fast drawing to its close in Berlin. Double windows are almost unknown in the British capital; and even they have proved a miserably inefficient bulwark against the cold here for some weeks past. In those rooms unprovided with them, despite the heating kept up night and day by means of delf stoves that devour such a terrible amount of costly fuel, a coating of ice from three-quarters of an inch to an inch and a half in thickness has formed upon and steadily adhered to the inside surface of the window-panes.

The Lock-out in South Wales.—The Lock-out has been accompanied by a lamentable fatality. In the bitter weather and the falling snow several poor people were engaged in collecting bits of coal from the huge tips. A man who was standing by saw a lad busily occupied in his search just below an overhanging block which looked particularly unsafe. The man went to the lad to remove him from the dangerous situation, and while so employed the threatening mass fell and buried them both. When they were extricated life was extinct.

Lighting-Gas from Mud.—M. Albert Sindermann has lately made known to the municipal authorities of Breslau the fact that he manufactures lighting-gas from excrementitious matter and mud on one of his estates outside the town. According to the *Gazette* of Silesia, the process is as follows:—The apparatus, placed in a vault, consists of a reservoir, which collects the matters and distributes them by a sluice into a retort situated at a lower level. From this retort the gases escape into a tar-well, and then into the condenser. The purifying is accomplished by means of lime-water, and lastly the gases are made to pass over pure water, when they are collected in the gasometer.

Railway Projects for London.—Mr. Haywood, the engineer to the Corporation of London, has made a report respecting the railway and other projects now before Parliament affecting the City. These will for the most part interfere largely with the sewerage of the districts through which they are proposed to be executed, and, as regards railways, will involve the reconstruction of very considerable lengths of sewer immediately on their line and in adjacent places. Some of the most important public ways will also be interfered with by the proposed railways during their construction, although not permanently. The total area scheduled in the various schemes is over fourteen acres.

Effect of the Cold on the Metropolitan Death-rate.—In London 2,488 births and 1,726 deaths were registered. Allowing for increase of population, the births were 31 below, whereas the deaths exceeded by 91, the average numbers in the corresponding week of the last 10 years. The annual death-rate from all causes, which, in the two previous weeks had been equal to 25 and 24 per 1,000, rose last week, under the influence of the recent lower temperature, to 26. The mean temperature of the air was 34·5 deg., or 4·5 deg. below the average in the corresponding week of the 60 years 1814-73.

New St. Peter's Church, Maidstone.—The following tenders have been received for the erection of the New St. Peter's Church, Tunbridge-road, Maidstone. The new building will occupy an elevated position on a piece of land given by Mr. F. Scudamore:—

Turner	£6,750 0 0
Avard	6,535 0 0
Vaughan	6,390 0 0
Gibbons	6,347 0 0
Dove	6,330 0 0
Wallis & Co.	5,849 0 0
Naylar (accepted)	5,216 0 0

Gloucester.—The following tenders have been received for the erection of stables on a site adjoining the Cattle-market, for the Corporation. The plans were prepared by Mr. T. Small, city surveyor, and each contractor took his own quantities:—

Cullis	£416 0 0
Jones	398 0 0
Peters	395 17 0
Niblett	380 0 0
Green	379 0 0
Meredith	369 0 0
Sims (accepted)	365 0 0

New Schools at Humber.—On the 15th inst., the new schools for this parish and district were opened by the rector, the Rev. P. Scudamore Stanhope, in the presence of a large number of parishioners and friends. The schools, which though situated about a mile from the church, are in the centre of the district, is attached an excellent residence for the master and mistress. The schools and class-rooms, built to accommodate sixty children, are lofty and well ventilated, and fitted up with all the latest improvements, the architect being Mr. Hinch, of Hampton Court, Leominster.

Order for Six Miles of Water-Pipes.—Nearly the largest, if not actually the largest, order for ironwork which has been given out for some time, has been awarded within the last few days to the Staveley Company, near Sheffield. It is for several thousand tons of very large-sized water-pipes, to form nearly six miles of water-main, for the principal water company in Yorkshire. The competition was very severe; all the leading northern and local firms were competitors. The price was understood to be considerably under 7*l.* per ton, or 30s. below recent rates, owing to cheaper fuel and wages.

Rebuilding of Trinity Church, Dorchester.—Messrs. Tilley, the contractors for rebuilding Trinity Church, have received instructions to proceed with the work of demolishing the present building. Their contract is 3,300*l.*, including everything.

Fever at Greenwich Hospital Schools.—At a meeting of the Greenwich District Board of Works the other day the district medical officer reported the outbreak of fever of a low malarious character among the boys of the Greenwich Hospital Schools, no fewer than fifty-nine cases of illness having arisen within a period of seven days. The cause of such outbreak he attributed to the breaking and carrying away of the soil of the old burial-ground of Greenwich Hospital for the formation of the tunnel of the new line of railway between Greenwich and Woolwich.

Memorial to the late Archdeacon Hony. It has been decided to place a pulpit, to be designed by Sir Gilbert Scott, in the nave of Salisbury Cathedral, as a memorial to the late Ven. William Edward Hony, Archdeacon of Sarum, and Canon of Salisbury Cathedral. The probable cost will be about 500*l.* Several subscriptions are announced, and among them the Very Rev. the Dean, 25*l.*; Mr. Alfred Morrison, 25*l.*; Mr. Alfred Seymour, 10*l.*; Mr. C. Raikes, 5*l.*, &c. Accounts and subscription lists are opened at all the Salisbury banks.

The Artizans' Dwellings Bill.—In a discussion on Saturday last on the provisions of the Artizans' Dwellings Bill, at a meeting of the Association of Medical Officers of Health (of the metropolitan district), the Bill was admitted to be an important step in the direction of sanitary reform. It was held, however, that to be effective it should be compulsory on local authorities to carry out the recommendations of the health officers to require the provision of house accommodation for occupiers before the demolition of condemned buildings.

A large Chimney Blown Down.—Last week, during the prevalence of a strong gale, a large chimney connected with the Bede Chemical Works, East Jarrow, was blown down. At the time, three men, named Thomas Holleran, Hugh Cain, and Forest Mitcheson, were engaged in clearing old plant about eighty yards from the chimney, which, in falling, struck Holleran, and killed him on the spot. Cain was severely injured, and Mitcheson slightly. The chimney also fell on the building, and the whole damage amounted to about 3,000*l.*

Improvements on Clapham Common.—The Metropolitan Board of Works, who are now the conservators of Clapham Common, and in whom the manorial rights, &c., are vested, have sanctioned improvements, and an avenue of trees has been planted and guarded from destruction and the roads and paths repaired, and the ponds are to be drained and cleansed, but the common will in other respects remain intact and preserved in its present park-like condition. The Metropolitan Board paid 17,000*l.* to the Lord of the Manor for his interests.

Fall of a Railway Bridge.—A fatal accident occurred on Saturday last, near Hays and Harlington Station, on the Great Western Railway. For several months past a large number of workmen have been engaged widening the line between London and West Drayton. On Saturday they were taking down a portion of a brick bridge over the line near the Hays and Harlington Station, when a part of the bridge fell in with a loud crash. Several of the men were buried.

The Military Depot at Worcester.—The site for the depôt, extending over 25 acres, and situated on the Worton-road, about three miles from the city, is now the scene of active excavating and other building processes. It is expected that the work will be completed in about two years. Colonel Manners, R.E. (Pembroke), and Major Hawthorn (Newport), are directing the operations, Mr. Louch undertaking the more immediate personal supervision. The amount of contract is between 50,000*l.* and 60,000*l.*

The Regent's Park Canal Bridges.—On the 17th, at the sitting of the St. Pancras Vestry, a report from the General Purposes Committee stated that the Metropolitan Board of Works had consented to pay the moiety of the cost, estimated at 9,000*l.*, in re-erecting and widening the canal bridge at the entrance to the Regent's Park at Gloucester-gate, and also the bridge in Chalk Farm-road, and the Vestry resolved to carry out the work.

New Barracks.—The War Department has commenced the erection of extensive new barracks at Warrington. The contract, which we believe amounts to about 69,000*l.*, has been let to Messrs. Robert Neill & Sons, of Manchester.

Lower Gornal Parish Church.—On Sunday morning, 14th inst., a considerable amount of plastering fell from the roof of the church over the children's gallery during divine service. The noise produced great consternation among the congregation, as it was generally thought that the tower of the church was giving way. Fortunately no one was hurt, and on the churchwarden stating the real cause, most of the congregation remained in their seats.

Election of Sanitary Inspector, Bishop Auckland.—At the meeting of the Auckland Rural Sanitary Authority on Tuesday, 18th inst., the election of an assistant inspector of nuisances, at a salary of 200*l.* per year, in place of Mr. J. Watford, deceased, created a great amount of interest. There were no less than fifty-six candidates for the office. At the last meeting the number was reduced to ten, and on Thursday, after two votings, Mr. W. Robson, of Durham, was elected.

Accident to a Plumber at Wolverhampton.—Last week, Benjamin Clarke, a plumber, in the employ of Mr. Ward, Snowhill, fell from the top of a three-story house in George-street. He was removed to the Hospital, where he was examined, and was found to have sustained a scalp wound. He was detained as an in-patient. The cause of the accident is stated to have been a rotten stave in the ladder on which he was standing.

City of London School.—We learn that the City School Committee are discussing the propriety of rebuilding the school upon another site, to give a greater amount of accommodation. In the present building the boys have no proper space for work or play. The committee consider they would be able to realise a large sum for the present site, sufficient to erect a building upon an improved plan, which would meet the requirements of the school.

New Congregational Churches in Wales. The number of these churches in Wales, and especially English ones, is apparently on the increase. An official report says that in Glamorganshire alone no fewer than fifty-four new Congregational churches have been built, and twenty-seven old churches rebuilt and enlarged, during the past fifteen years. The total cost was nearly 130,000*l.*, and this in addition to 10,000*l.* which has been spent on repairs and alterations.

Large Donation to Melbourne University. A munificent gift has been made to the Melbourne University by Mr. Samuel Wilson, of Ercildoun, a squatter, whose liberality has previously been displayed in other directions. He has placed at the disposal of the authorities of the University the sum of 30,000*l.*, for the erection of a hall in keeping with the design of the present buildings, the donation to be free from any conditions whatever.

A Sudden Lock-out.—The men employed at the Union Foundry, Bolton, to the number of 304, were suddenly told, the other day, about eleven o'clock, that they must cease work, and quit the premises as soon as possible, the law officers having seized the works under a distraint. The announcement caused great consternation among the men, who, however, lost no time in packing their tools and departing.

The Blackburn Waterworks.—The Corporation of Blackburn have purchased the works and rolling-stock of the Blackburn Waterworks Company, and have guaranteed to pay to the latter a fixed percentage of 9 per cent. for a period of five years, and at the expiration of that time the sum of 9½ per cent. for ever. The value of the works is expected to be 200,000*l.*

The Sheffield New Workhouse. — The Chairman moved "that the Local Government Board be requested to issue an order authorising the guardians to borrow the sum of 60,000*l.* for the purpose of erecting a new workhouse for this union, the sum to be borrowed in such amounts as may be required from time to time." Mr, Stracey seconded this resolution, which was carried with three dissentients.

The Land-Tax collected in Great Britain produced 1,071,991*l.* in the financial year 1873-74, being 23,955*l.* less than in the preceding year. The Inland Revenue Board find that there are about 2,000 parishes in which the land-tax payable is under 10*l.*

The Port of London.—Dr. Harry Leach, the medical officer of health for the port of London, has just presented his half-yearly report to the Corporation. It contains many interesting particulars.

Garibaldi's Tiber Scheme.—Garibaldi, it is stated, has entrusted to Messrs. Wilkinson & Smith, engineers, of Westminster, the preparation of the plans for forming a harbour in connexion with the intended ship canal to Rome at Fiumicino, near the present mouth of the Tiber. The plans are to be prepared with all expedition to enable the works to be commenced as early as possible.

Cremation.—The Council of the Cremation Society have, we learn, made a progress towards their object. A piece of ground has been secured for the erection of a building in which the religious rites can be performed prior to the incinerating process. The estimated cost of the proposed building is 3,500*l.*, towards which 1,000*l.* has been promised. Further subscriptions are requested.

Cabmen's Rests.—At the meeting of the Paddington Vestry last week, an application was received from the Cabmen's Rest Association applying for leave to place a "shelter" on the stand in the Harrow-road, near to Bloomfield-crescent. The Chairman of the Highways Committee moved that the application be granted as an experiment, subject to the Committee of the Vestry approving of the position selected.

The Female School of Art.—The annual distribution of prizes to students, including the Queen's scholarship, the Queen's gold medal, national bronze medals, Gilchrist, and other prizes, will take place in the theatre of the Museum of Geology, Jermyn-street, on this Saturday, the 27th. The Earl of Aberdeen will preside.

Langham Hotel Company.—The directors have declared a dividend (free of income-tax) at the rate of 18½ per cent. per annum, which will absorb 7,945*l.* 13*s.* 2*d.*, and leave 7,257*l.* 6*s.* 8*d.* to be carried forward as against a like free-tax dividend of 17½ per cent. per annum, declared and paid at the corresponding period of last year.

A Charge of Vandalism.—Mr. E. Lumley, of Surbiton, draws attention to the fact that the old wall which separates the Hampton Court Palace grounds from the towing-path has been despoiled of its beauty by the destruction of the ivy which covered it. He asks who is responsible for this act, and protests against it on behalf of those who, like himself, love to linger by the charming old palace and gardens.

A New Appointment. — The committee have recommended that an additional officer be appointed in the Superintending Architect's Department (Metropolitan Board of Works), to make detailed valuations of the several items of tenants and trade fixtures in cases of compensation claims, and to discharge other special duties in that department, at a commencing salary of 150*l.* per annum.

Good Orders.—Mr. Thomas Holloway has just given Mr. W. H. Lascelles an order for the Joiners' work in the main building of his Sanatorium. It is to be completed in six months. The value of the work is about 10,000*l.* Mr. Lascelles has just completed an order from the London School Board for 11,000 pitch-pine desks and seats for their new schools.

Gift to Saltley Training College.—By the munificence of an anonymous donor, Saltley Training College, Birmingham, has been provided with a sum of 3,000*l.*, to provide lectures and teachers on the laws of health, with a money prize for proficiency.

Casting of the Maximilian Memorial.—The casting in bronze of the fine work of art for the Maximilian Memorial, to commemorate the late unfortunate Emperor of Mexico, has just been successfully effected at the Imperial Foundry at Vienna.

Certificates of Competency.—The Royal Institute of British Architects have informed the Metropolitan Board of Works that the Council have granted certificates of competency, to perform the duties of District Surveyor, to Mr. J. Hebb, Mr. F. C. Notley, and Mr. T. C. Sorby.

Withdrawal of the Metropolis Gas Bill.—In the Commons on the 16th inst., on the motion of Sir C. Forster, the order for the second reading the Metropolis Gas (New Works) Bill was read and discharged, and the Bill was withdrawn.

Demolition of the Old Paris Opera House.—The old Opera House is about to be pulled down to make way for a projected new street.

TENDERS

For taking down and rebuilding Nos. 67, 68, and 69, Houndsditch, for Messrs. Henry Hobson & Son. Mr. W. C. Banks, architect:—

Staines & Son	£3,340 0 0
Merritt & Ashby (accepted)	3,300 0 0

Tenders for building a laundry, at Homerton, for the guardians of the City of London Union. Mr. G. Judge, jun., architect. Quantities supplied by Mr. C. Kirkby:—

Gough	£3,427 0 0
Langmead & Way	3,097 0 0
Lewis	2,839 0 0
Messrs. Roberts	2,797 0 0
Perkins	2,787 0 0
Waldram	2,739 0 0
Harper	2,725 0 0
Shurmur	2,682 0 0
Warr	2,675 0 0
Thompson (accepted)	2,453 0 0

For house and factory, New Brompton, Kent, for Mrs. M'Farlane. Mr. A. C. Morton, architect:—

Tunell, Brothers	£750 0 0
Smith (accepted)	530 0 0

For public-house and shop, Tabernacle-walk, Finsbury, for Mr. P. Turner. Mr. A. C. Morton, architect:—

Allen & Son	£2,350 0 0
Channing	1,577 0 0
Wheeler (accepted)	1,189 0 0

For two shops, at Upper Norwood, for Mr. James Swift:—

Merritt & Ashby	£2,330 0 0
Downs & Co.	2,229 0 0
Blake	1,980 0 0
Bowyer & Sons (accepted)	1,748 0 0
Hobbs	1,648 0 0

For pulling down present entrance, and reconstruction of new works to the Deptford-green Dry Dock, for Messrs. W. Walker & Co. Mr. E. C. Homer, engineer:—

For New Entrance.

Cooke & Co.	£5,225 0 0
Kirk & Randall	3,950 0 0
Watts	3,387 0 0
Sheffield (accepted)	3,350 0 0

For Part of Inside Work.

Kirk & Randall	£2,200 0 0
Sheffield (accepted)	2,000 0 0

For alterations and additions to No. 44, Tottenham-court-road, for Mr. J. Powlesland. Mr. T. Newell, architect:—

Baugh	£287 0 0
Watson, Brothers	247 0 0
Perkins (accepted)	231 0 0

For the erection of offices, restaurant, and shops, in Gracechurch-street. Mr. F. W. Stent and Mr. J. W. Morris, architects. Quantities supplied:—

Bracher & Son	£17,347 0 0
Watts	15,195 0 0
Ellis & Sons	14,977 0 0
Waldram & Co.	14,775 0 0
Kilby	13,920 0 0

For pulling down and rebuilding the King William the Fourth, Grosvenor-road, Pimlico, for Mr. T. Barrett. Mr. G. Legg, architect:—

Heath	£5,682 0 0
Fish	5,600 0 0
Carter	5,497 0 0
Chappell	5,419 0 0
Timewell	5,335 0 0
Stephenson	4,756 0 0
Toms	4,666 0 0

For alterations and additions to No. 2, Thomas-street, Whitechapel-road, for Mr. De Mesa. Mr. C. A. Legg, architect:—

Hearle	£449 0 0
Moyle	408 10 0
Judd & Hawkings	369 0 0
Hunt	358 0 0

For alterations and additions to Nos. 263 and 265, Oxford-street, Stepney-green. Mr. J. P. Richardson, architect:—

Bremeyer	£530 0 0
Judd & Hawkings	377 0 0
Gill	255 0 0

For the erection of a warehouse, in Eagle-court, St. John's-lane, Clerkenwell. Mr. L. H. Isaacs, architect. Quantities furnished by Mr. L. C. Riddett:—

Patman & Fotheringham	£2,338 0 0
Browne & Robinson	2,270 0 0
Macey	2,220 0 0
Elkington	2,013 0 0
Scrivener & White (accepted)	1,994 0 0

For alterations and additions at Nos. 11 and 12, Godliman-street, St. Paul's Churchyard, for Mr. S. Beddington. Messrs. Joseph & Pearson, architects:—

Browne & Robinson	£3,000 0 0
Newman & Mann	3,005 0 0
Lidstone & Son	2,902 18 0

For alterations, painting, &c., at the Shakspere Tavern, Shakspere-road, Stoke Newington, for Mr. Ponton. Mr. J. Groom, architect:—

Coward	£230 0 0
Cole	220 0 0
Jenkins	196 10 0
Whitby	183 0 0
Staines & Son (accepted)	178 0 0

For the erection of stables and loose boxes, at Hill-street, Finsbury, for Mr. M'Namara. Mr. J. Tosh, architect. Quantities supplied by Mr. A. J. Bolton:—

Chamberlain, Brothers	£1,571 0 0
Carter	1,567 0 0
Anley	1,513 0 0
Crabb	1,500 0 0
Downs	1,497 0 0
Bowman	1,479 0 0
Waldram & Co.	1,439 0 0
Crockett	1,430 0 0
Kirk	1,414 0 0
Browne & Robinson	1,397 0 0
Williams & Son	1,380 0 0
Ennor	1,357 0 0
Aitchison & Walker (accepted)	1,295 0 0